Changes for the Better

MITSUBISHI ELECTRIC

SPLIT-TYPE, HEAT PUMP AIR CONDITIONERS

Revision B:
- MXZ-2A20NA - [1] and MXZ-3A30NA - [1] have been added.

Please void OB444 REVISED EDITION-A.

OUTDOOR UNIT

SERVICE MANUAL

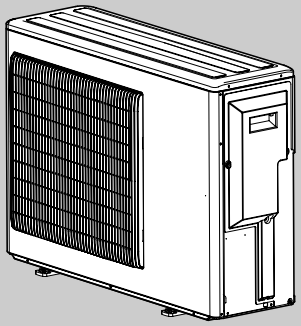
HFC utilized
R410A

No. OB444
REVISED EDITION-B

Inverter-controlled multi system type
Models

MXZ-2A20NA
MXZ-2A20NA -[1]
MXZ-3A30NA
MXZ-3A30NA -[1]

Indoor unit service manual
MSZ-A·NA Series (OB450)



MXZ-2A20NA
MXZ-2A20NA - [1]

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NOTE:
- This service manual describes technical data of the outdoor units.
- RoHS compliant products have <G> mark on the spec name plate. For servicing of RoHS compliant products, refer to the RoHS Parts List.

9700058

33223

The Slim Line.
From Mitsubishi Electric.

Mr.SLIM™

Revision A:
- RoHS PARTS LIST has been added.

Revision B:
- MXZ-2A20NA - 1 and MXZ-3A30NA - 1 have been added.

1 TECHNICAL CHANGES

MXZ-2A20NA

New model

MXZ-30TN2 → MXZ-3A30NA

1. Combinations of connectable indoor units have been increased.
2. Capacity class of connectable indoor units have been made larger.
3. Compressor has been changed. (THV247FBA → TNB220FMCH)
4. Outdoor fan motor has been changed. (RA6N60-AA → RC0J60-AB)
5. Refrigerant has been changed. (R22 → R410A)
6. Refrigerant system diagram has been changed.
   - 1 of 2 high pressure switch has been removed.
   - Accumulator has been removed.
   - Receiver has been added.
7. Communication system has been changed.
8. Power supply way has been changed(change to supply to outdoor unit).
9. Evaporation temperature thermistor has been added.
10. Ambient temperature thermistor has been added.

MXZ-2A20NA → MXZ-2A20NA - 1

1. Compressor has been changed. (SNB130FPDH1 → SNB130FQBH1)
2. Gas pipe temperature thermistor has been removed.
3. Pre-heat control has been added.
4. Electronic control P.C. board has been changed.
5. Power board has been changed.

MXZ-3A30NA → MXZ-3A30NA - 1

1. Ball valve has been changed to stop valve.
2. Gas pipe temperature thermistor has been removed.
3. Pre-heat control has been added.
4. Auto line correcting function has been added.
5. Noise filter P.C. board has been changed.
6. Electronic control P.C. board has been changed.
7. Weight has been changed. (158lb. → 148lb.)

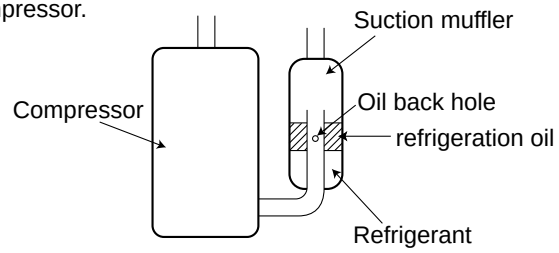
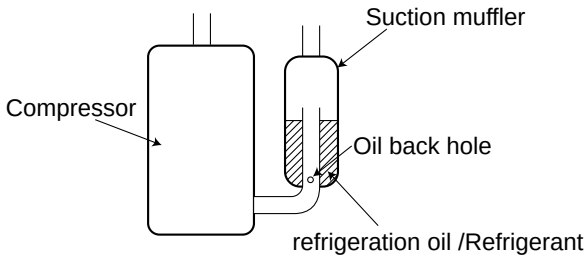
INFORMATION FOR THE AIR CONDITIONER WITH R410A REFRIGERANT

- This room air conditioner adopts HFC refrigerant (R410A) which never destroys the ozone layer.
- Pay particular attention to the following points, though the basic installation procedure is same as that for R22 air conditioners.

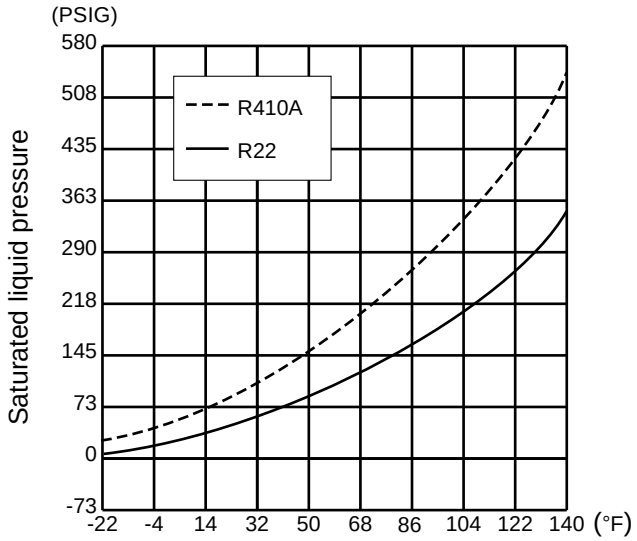
① As R410A has working pressure approximate 1.6 times as high as that of R22, some special tools and piping parts/ materials are required. Refer to the table below.
② Take sufficient care not to allow water and other contaminations to enter the R410A refrigerant during storage and installation, since it is more susceptible to contaminations than R22.
③ For refrigerant piping, use clean, pressure-proof parts/materials specifically designed for R410A. (Refer to 2. Refrigerant piping.)
④ Composition change may occur in R410A since it is a mixed refrigerant. When charging, charge liquid refrigerant to prevent composition change.

		New refrigerant	Previous refrigerant
Refrigerant	Refrigerant	R410A	R22
	Composition (Ratio)	HFC-32: HFC-125 (50%:50%)	R22 (100%)
	Refrigerant handling	Pseudo-azeotropic refrigerant	Single refrigerant
	Chlorine	Not included	Included
	Safety group (ASHRAE)	A1/A1	A1
	Molecular weight	72.6	86.5
	Boiling point (°F)	-60.5	-41.4
	Steam pressure [77°F](PSIG)	225.82	136.34
	Saturated steam density [77°F](lb/ft^3)	3.995	2.772
	Combustibility	Non combustible	Non combustible
	ODP ※1	0	0.055
	GWP ※2	1730	1700
	Refrigerant charge method	From liquid phase in cylinder	Gas phase
	Additional charge on leakage	Possible	Possible
Refrigeration oil	Kind	Incompatible oil	Compatible oil
	Color	Non	Light yellow
	Smell	Non	Non

※1 :Ozone Depletion Potential : based on CFC-11
※2 :Global Warming Potential : based on CO_2

	New Specification	Current Specification
Compressor	The incompatible refrigeration oil easily separates from refrigerant and is in the upper layer inside the suction muffler. Raising position of the oil back hole enables to back the refrigeration oil of the upper layer to flow back to the compressor. 	Since refrigerant and refrigeration oil are compatible, refrigeration oil goes back to the compressor through the lower position oil back hole. 

Conversion chart of refrigerant temperature and pressure



1.Tools dedicated for the air conditioner with R410A refrigerant

The following tools are required for R410A refrigerant. Some R22 tools can be substituted for R410A tools.

R410A tools	Can R22 tools be used?	Description
Gauge manifold	No	R410A has high pressures beyond the measurement range of existing gauges.
Charge hose	No	Hose material have been changed to improve the pressure resistance.
Gas leak detector	No	Dedicated for HFC refrigerant.
Torque wrench	Yes	1/4in. and 3/8in.
	No	1/2in. and 5/8in.
Flare tool	Yes	Clamp bar hole has been enlarged to reinforce the spring strength in the tool.
Flare gauge	New	Provided for flaring work (to be used with R22 flare tool).
Vacuum pump adapter	New	Provided to prevent the back flow of oil. This adapter enables you to use vacuum pumps.
Electronic scale for refrigerant charging	New	It is difficult to measure R410A with a charging cylinder because the refrigerant bubbles due to high pressure and high-speed vaporization.

No : Not Substitutable for R410A Yes : Substitutable for R410A

2.Refrigerant piping

① Specifications

Use the copper or copper-alloy seamless pipes for refrigerant that meet the following specifications.

Outside diameter (inch)	Wall thickness (inch)	Insulation material
1/4	0.0315	Heat resisting foam plastic Specific gravity 0.045 Thickness 0.315 inch
3/8	0.0315	
1/2	0.0315	
5/8	0.0394	

② Flaring work and flare nut

Flaring work for R410A pipe differs from that for R22 pipe.

For details of flaring work, refer to Installation manual “FLARING WORK”.

Pipe diameter (inch)	Dimension of flare nut (inch) [inch]	
	R410A	R22
1/4	17 [11/16]	17 [11/16]
3/8	22 [7/8]	22 [7/8]
1/2	26 [1-1/32]	24 [15/16]
5/8	29 [1-5/32]	27 [1-1/16]

3.Refrigeration oil

Apply the special refrigeration oil (accessories: packed with indoor unit) to the flare and the union seat surfaces.

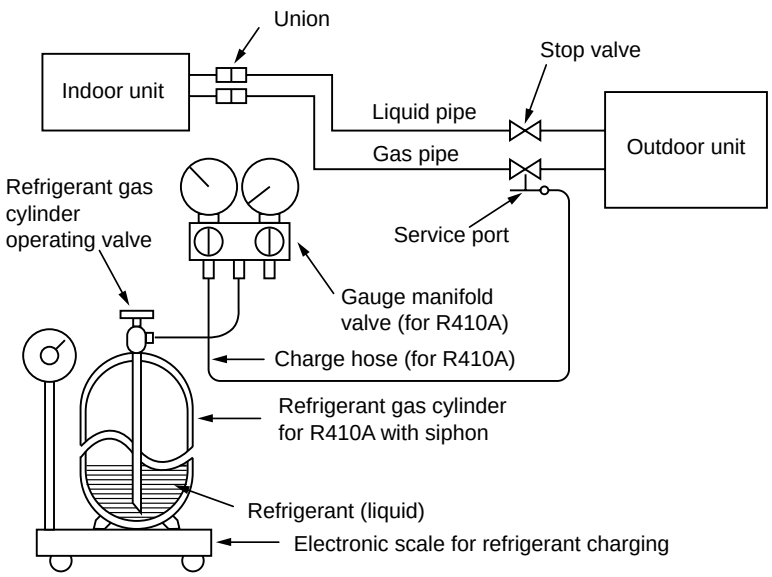
4.Air purge

- Do not discharge the refrigerant into the atmosphere.
  Take care not to discharge refrigerant into the atmosphere during installation, reinstallation, or repairs to the refrigerant circuit.
- Use the vacuum pump for air purging for the purpose of environmental protection.

5.Additional charge

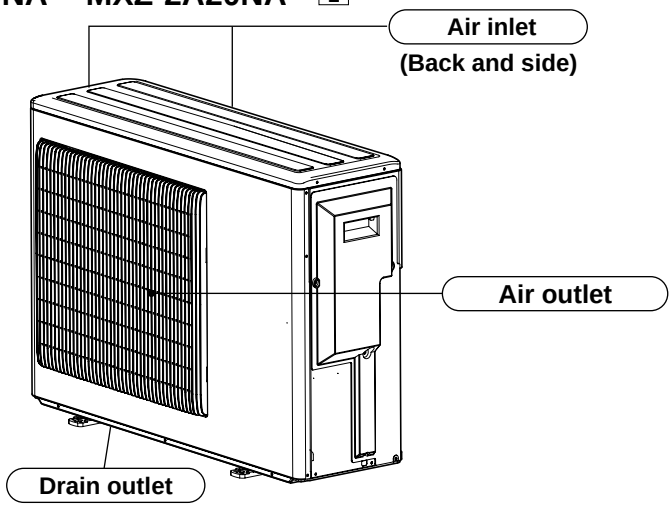
For additional charging, charge the refrigerant from liquid phase of the gas cylinder.

If the refrigerant is charged from the gas phase, composition change may occur in the refrigerant inside the cylinder and the outdoor unit. In this case, ability of the refrigeration cycle decreases or normal operation can be impossible. However, charging the liquid refrigerant all at once may cause the compressor to be locked. Thus, charge the refrigerant slowly.

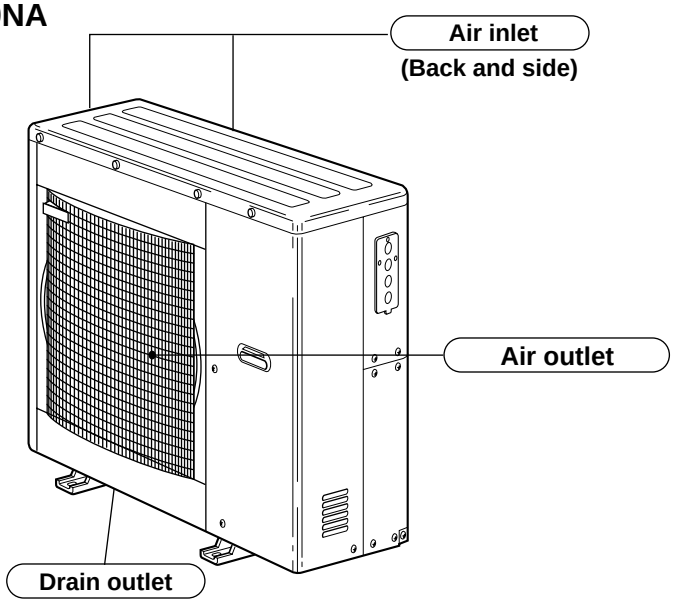


2 PART NAMES AND FUNCTIONS

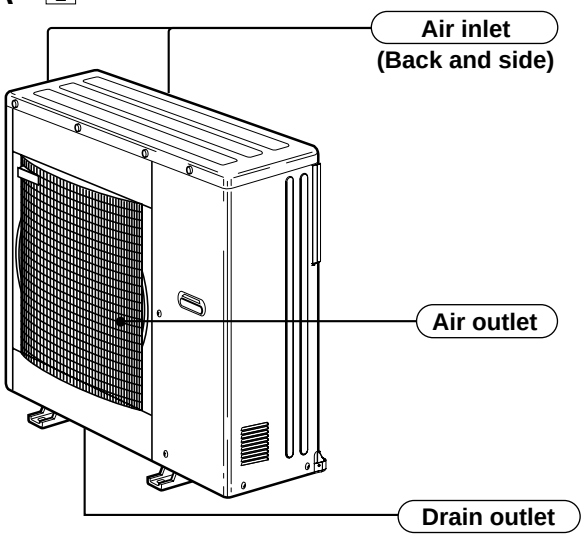
MXZ-2A20NA MXZ-2A20NA - 1



MXZ-3A30NA



MXZ-3A30NA - 1



3 INDOOR UNITS COMBINATION

MXZ-2A20NA MXZ-2A20NA - 1

Indoor units combination	Cooling capacity (BTU/h)			Power consumption (W)	Current (A)		Power factor (%)
	Unit A	Unit B	Total		208V	230V	
09	9,000	–	9,000 (5,400 ~ 9,000)	730 (490 ~ 730)	3.69	3.34	95
12	12,000	–	12,000 (5,400 ~ 12,000)	990 (490 ~ 990)	5.01	4.53	95
15	15,000	–	15,000 (5,400 ~ 15,000)	1,540 (490 ~ 1,540)	7.79	7.05	95
09+09	9,000	9,000	18,000 (7,800 ~ 18,000)	1,740 (630 ~ 1,740)	8.62	7.80	97
09+12	8,500	11,500	20,000 (7,800 ~ 20,000)	2,150 (630 ~ 2,150)	10.66	9.64	97
09+15	7,500	12,500	20,000 (7,800 ~ 20,000)	2,150 (630 ~ 2,150)	10.66	9.64	97
12+12	10,000	10,000	20,000 (7,800 ~ 20,000)	2,150 (630 ~ 2,150)	10.66	9.64	97

Indoor units combination	Heating capacity (BTU/h)			Power consumption (W)	Current (A)		Power factor (%)
	Unit A	Unit B	Total		208V	230V	
09	10,900	–	10,900 (5,200 ~ 15,400)	940 (480 ~ 1,430)	4.76	4.30	95
12	13,600	–	13,600 (5,200 ~ 16,400)	1,180 (480 ~1,460)	5.97	5.40	95
15	18,000	–	18,000 (5,200 ~ 21,100)	1,720 (480 ~ 2,100)	8.70	7.87	95
09+09	10,900	10,900	21,800 (8,500 ~ 21,800)	1,820 (520 ~ 1,820)	9.02	8.16	97
09+12	9,500	12,500	22,000 (8,500 ~ 22,000)	1,780 (520 ~ 1,780)	8.82	7.98	97
09+15	8,250	13,750	22,000 (8,500 ~ 22,000)	1,780 (520 ~ 1,780)	8.82	7.98	97
12+12	11,000	11,000	22,000 (8,500 ~ 22,000)	1,780 (520 ~ 1,780)	8.82	7.98	97

MXZ-3A30NA MXZ-3A30NA - 1

Indoor units combination	Cooling capacity (BTU/h)				Power consumption (W)	Current (A)		Power factor (%)
	Unit A	Unit B	Unit C	Total		208V	230V	
09	9,000	–	–	9,000 (7,200 ~ 9,000)	800 (650 ~ 800)	4.05	3.66	95
12	12,000	–	–	12,000 (7,200 ~ 12,000)	1,000 (650 ~ 1,000)	5.06	4.58	95
15	15,000	–	–	15,000 (7,200 ~ 15,000)	1,320 (650 ~ 1,320)	6.68	6.04	95
17	16,200	–	–	16,200 (7,200 ~ 16,200)	1,480 (650 ~ 1,480)	7.49	6.77	95
24	22,000	–	–	22,000 (7,200 ~ 22,000)	2,220 (650 ~ 2,200)	11.13	10.07	95
09+09	9,000	9,000	–	18,000 (12,000 ~ 18,000)	1,800 (920 ~ 1,800)	8.92	8.07	97
09+12	9,000	12,000	–	21,000 (12,000 ~ 21,000)	2,000 (920 ~ 2,000)	9.91	8.96	97
09+15	9,000	15,000	–	24,000 (12,000 ~ 24,000)	2,500 (920 ~ 2,500)	12.39	11.21	97
09+17	9,000	16,200	–	25,200 (12,000 ~ 25,200)	2,700 (920 ~ 2,700)	13.38	12.10	97
09+24	7,600	20,400	–	28,000 (12,000 ~ 28,000)	3,200 (920 ~ 3,200)	15.86	14.34	97
12+12	12,000	12,000	–	24,000 (12,000 ~ 24,000)	2,500 (920 ~ 2,500)	12.39	11.21	97
12+15	11,500	14,500	–	26,000 (12,000 ~ 26,000)	2,800 (920 ~ 2,800)	13.88	12.55	97
12+17	10,800	15,200	–	26,000 (12,000 ~ 26,000)	2,800 (920 ~ 2,800)	13.88	12.55	97
15+15	13,000	13,000	–	26,000 (12,000 ~ 26,000)	2,800 (920 ~ 2,800)	13.88	12.55	97
15+17	12,200	13,800	–	26,000 (12,000 ~ 26,000)	2,800 (920 ~ 2,800)	13.88	12.55	97
17+17	13,000	13,000	–	26,000 (12,000 ~ 26,000)	2,800 (920 ~ 2,800)	13.88	12.55	97
09+09+09	9,000	9,000	9,000	27,000 (12,600 ~ 27,000)	2,860 (1,000 ~ 2,850)	14.18	12.82	97
09+09+12	8,500	8,500	11,400	28,400 (12,600 ~ 28,400)	3,250 (1,000 ~ 3,250)	16.11	14.57	97
09+09+15	7,750	7,750	12,900	28,400 (12,600 ~ 28,400)	3,250 (1,000 ~ 3,250)	16.11	14.57	97
09+09+17	7,300	7,300	13,800	28,400 (12,600 ~ 28,400)	3,250 (1,000 ~ 3,250)	16.11	14.57	97

Indoor units combination	Heating capacity (BTU/h)				Power consumption (W)	Current (A)		Power factor (%)
	Unit A	Unit B	Unit C	Total		208V	230V	
09	10,900	–	–	10,900 (8,600 ~ 15,400)	1,100 (780 ~1,520)	5.57	5.03	95
12	13,600	–	–	13,600 (8,600 ~ 16,400)	1,380 (780 ~ 1,600)	6.98	6.32	95
15	18,000	–	–	18,000 (8,600 ~ 21,100)	1,940 (780 ~ 2,280)	9.82	8.88	95
17	20,100	–	–	20,100 (8,600 ~ 21,500)	2,240 (780 ~ 2,300)	11.34	10.25	95
24	23,200	–	–	23,200 (8,600 ~ 27,800)	2,520 (780 ~ 3,000)	12.75	11.53	95
09+09	10,900	10,900	–	21,800 (11,000 ~ 31,000)	1,700 (740 ~2,560)	8.43	7.62	97
09+12	10,900	13,600	–	24,500 (11,000 ~ 33,000)	1,980 (740 ~ 2,800)	9.81	8.87	97
09+15	10,100	16,900	–	27,000 (11,000 ~ 35,000)	2,200 (740 ~ 2,920)	10.90	9.86	97
09+17	9,300	17,700	–	27,000 (11,000 ~ 35,000)	2,200 (740 ~ 2,920)	10.90	9.86	97
09+24	7,300	19,700	–	27,000 (11,000 ~ 35,000)	1,980 (740 ~ 2,740)	9.81	8.87	97
12+12	13,500	13,500	–	27,000 (11,000 ~ 35,000)	2,200 (740 ~ 2,920)	10.90	9.86	97
12+15	12,000	15,000	–	27,000 (11,000 ~ 35,000)	2,160 (740 ~ 2,860)	10.71	9.68	97
12+17	11,200	15,800	–	27,000 (11,000 ~ 35,000)	2,140 (740 ~ 2,860)	10.61	9.59	97
15+15	13,500	13,500	–	27,000 (11,000 ~ 35,000)	2,120 (740 ~ 2,800)	10.51	9.50	97
15+17	12,700	14,300	–	27,000 (11,000 ~ 35,000)	2,110 (740 ~ 2,800)	10.46	9.46	97
17+17	13,500	13,500	–	27,000 (11,000 ~ 35,000)	2,100 (740 ~ 2,800)	10.41	9.41	97
09+09+09	9,500	9,500	9,500	28,500 (11,400 ~ 36,000)	2,180 (740 ~ 2,880)	10.80	9.77	97
09+09+12	8,600	8,600	11,400	28,600 (11,400 ~ 36,000)	2,180 (740 ~ 2,880)	10.80	9.77	97
09+09+15	7,800	7,800	13,000	28,600 (11,400 ~ 36,000)	2,180 (740 ~ 2,880)	10.80	9.77	97
09+09+17	7,350	7,350	13,900	28,600 (11,400 ~ 36,000)	2,180 (740 ~ 2,880)	10.80	9.77	97

4 SPECIFICATION

Item		Model	MXZ-2A20NA MXZ-2A20NA - 1	
Capacity	Cooling ※1	Btu/h	20,000/ (7,800 ~ 20,000)	
	Heating 47 ※1	Btu/h	22,000/ (8,500 ~ 22,000)	
	Heating 17 ※2	Btu/h	14,500	
Power consumption	Cooling ※1	W	2,150/ (630 ~ 2,150)	
	Heating 47 ※1	W	1,780/ (520 ~ 1,780)	
	Heating 17 ※2	W	1,500 (1,500)	
EER ※1 [SEER] ※3	Cooling		9.3 [15]	
HSPF IV (V)	Heating		9.0 (7.0)	
COP	Heating		12.4	
External finish			Munsell 5Y 8/1	
Power supply		V, phase, Hz	208/230, 1, 60	
Max. fuse size (time delay)		A	20	
Min. circuit ampacity		A	15	
Fan motor		F.L.A	0.96	
Compressor	Model		MXZ-2A20NA	SNB130FPDH1
			MXZ-2A20NA - 1	SNB130FQBH1
	Winding resistance (at 68˚F) Ω		MXZ-2A20NA	U-V 0.45 V-W 0.45 W-U 0.45
			MXZ-2A20NA - 1	U-V 0.98 V-W 0.98 W-U 0.98
		R.L.A	10.1	
		L.R.A	15	
Refrigerant control			LEV	
Sound level		dB(A)	49/51	
Defrost method			Reverse cycle	
Dimensions	W	in.	33-1/16	
	D	in.	13	
	H	in.	27-15/16	
Weight		lb.	130	
Remote controller			Wireless type	
Control voltage (by built-in transformer)			12-24V DC	
Refrigerant piping			Not supplied (optional parts)	
Valve size	Liquid	in.	1/4	
	Gas	in.	A,B:3/8	
Connection method	Indoor		Flared	
	Outdoor		Flared	
Refrigerant charge (R410A)		lb.	5lb. 15oz.	
Refrigeration oil (Model)		oz.	MXZ-2A20NA	20.3 (NEO22)
			MXZ-2A20NA - 1	23.7 (NEO22)

NOTE : Test conditions are based on ARI 210/240.
※1 : Rating conditions (cooling) — Indoor : 80˚FDB, 67˚FWB, Outdoor : 95˚FDB, (75˚FWB)
(heating) — Indoor : 70˚FDB, 60˚FWB, Outdoor : 47˚FDB, 43˚FWB
※2 : (heating) — Indoor : 70˚FDB, 60˚FWB, Outdoor : 17˚FDB, 15˚FWB
※3 : (cooling) — Indoor : 80˚FDB, 67˚FWB, Outdoor : 82˚FDB, 65˚FWB

Unit: ˚F

Mode	Test	Indoor air condition		Outdoor air condition	
		Dry bulb	Wet bulb	Dry bulb	Wet bulb
Cooling	※1: "A" Cooling Steady State at rated compressor Speed	80	67	95	(75)
	※3: "B-2" Cooling Steady State at rated compressor Speed	80	67	82	(65)
	"B-1" Cooling Steady State at minimum compressor Speed	80	67	82	(65)
	Low ambient Cooling Steady State at minimum compressor Speed	80	67	67	(53.5)
	Intermediate Cooling Steady State At Intermediate compressor Speed※	80	67	87	(69)
Heating	※1: Standard Rating-Heating at rated compressor Speed	70	60	47	43
	※2: Low temperature Heating at rated compressor Speed	70	60	17	15
	Max. temperature Heating at minimum compressor Speed	70	60	62	56.5
	High temperature Heating at minimum compressor Speed	70	60	47	43
	Frost Accumulation at rated compressor Speed	70	60	35	33
	Frost Accumulation at Intermediate compressor Speed※	70	60	35	33

※At Intermediate compressor Speed
=("Cooling rated compressor speed" - "minimum compressor speed") / 3 + "minimum compressor speed".

Item		Model	MXZ-3A30NA MXZ-3A30NA - 1	
Capacity	Cooling ※1	Btu/h	28,400/ (12,600 ~ 28,400)	
	Heating 47 ※1	Btu/h	28,600/ (11,400 ~ 36,000)	
	Heating 17 ※2	Btu/h	18,800	
Power consumption	Cooling ※1	W	3,250/ (1,000 ~ 3,250)	
	Heating 47 ※1	W	2,180/ (740 ~ 2,880)	
	Heating 17 ※2	W	2,120	
EER ※1 [SEER] ※3	Cooling		8.7 [16.0]	
HSPF IV (V)	Heating		10.0 (7.5)	
COP	Heating		13.1	
External finish			Munsell 3.0Y 7.8/1.1	
Power supply		V, phase, Hz	208/230, 1, 60	
Max. fuse size (time delay)		A	20	
Min. circuit ampacity		A	15	
Fan motor		F.L.A	0.93	
Compressor	Model		TNB220FMCH	
	Winding resistance (at 68˚F) Ω		U-V 0.61 V-W 0.61 W-U 0.61	
		R.L.A	11	
		L.R.A	15	
Refrigerant control			LEV	
Sound level		dB(A)	49/49	
Defrost method			Reverse cycle	
Dimensions	W	in.	35-7/16	
	D	in.	12-19/32	
	H	in.	35-7/16	
Weight		lb.	MXZ-3A30NA	158
			MXZ-3A30NA - 1	148
Remote controller			Wireless type	
Control voltage (by built-in transformer)			12-24V DC	
Refrigerant piping			Not supplied (optional parts)	
Valve size	Liquid	in.	1/4	
	Gas	in.	A:1/2 B,C:3/8	
Connection method	Indoor		Flared	
	Outdoor		Flared	
Refrigerant charge (R410A)		lb.	7lb. 11oz.	
Refrigeration oil (Model)		oz.	29.4 (NEO22)	

NOTE : Test conditions are based on ARI 210/240.
※1 : Rating conditions (cooling) — Indoor : 80˚FDB, 67˚FWB, Outdoor : 95˚FDB, (75˚FWB)
(heating) — Indoor : 70˚FDB, 60˚FWB, Outdoor : 47˚FDB, 43˚FWB
※2 : (heating) — Indoor : 70˚FDB, 60˚FWB, Outdoor : 17˚FDB, 15˚FWB
※3 : (cooling) — Indoor : 80˚FDB, 67˚FWB, Outdoor : 82˚FDB, 65˚FWB

Unit: ˚F

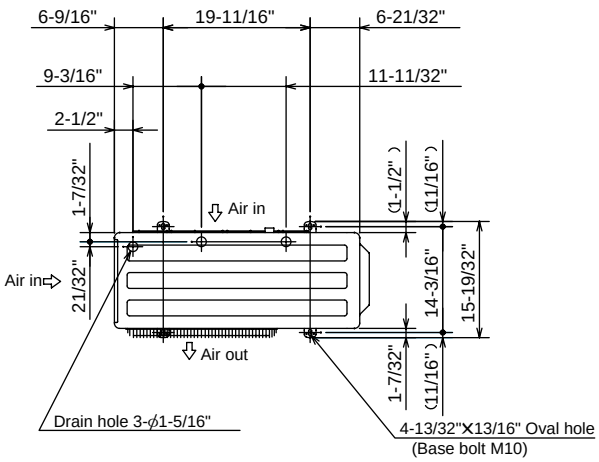
Mode	Test	Indoor air condition		Outdoor air condition	
		Dry bulb	Wet bulb	Dry bulb	Wet bulb
Cooling	※1: "A" Cooling Steady State at rated compressor Speed	80	67	95	(75)
	※3: "B-2" Cooling Steady State at rated compressor Speed	80	67	82	(65)
	"B-1" Cooling Steady State at minimum compressor Speed	80	67	82	(65)
	Low ambient Cooling Steady State at minimum compressor Speed	80	67	67	(53.5)
	Intermediate Cooling Steady State At Intermediate compressor Speed※	80	67	87	(69)
Heating	※1: Standard Rating-Heating at rated compressor Speed	70	60	47	43
	※2: Low temperature Heating at rated compressor Speed	70	60	17	15
	Max. temperature Heating at minimum compressor Speed	70	60	62	56.5
	High temperature Heating at minimum compressor Speed	70	60	47	43
	Frost Accumulation at rated compressor Speed	70	60	35	33
	Frost Accumulation at Intermediate compressor Speed※	70	60	35	33

※At Intermediate compressor Speed
=("Cooling rated compressor speed" - "minimum compressor speed") / 3 + "minimum compressor speed".

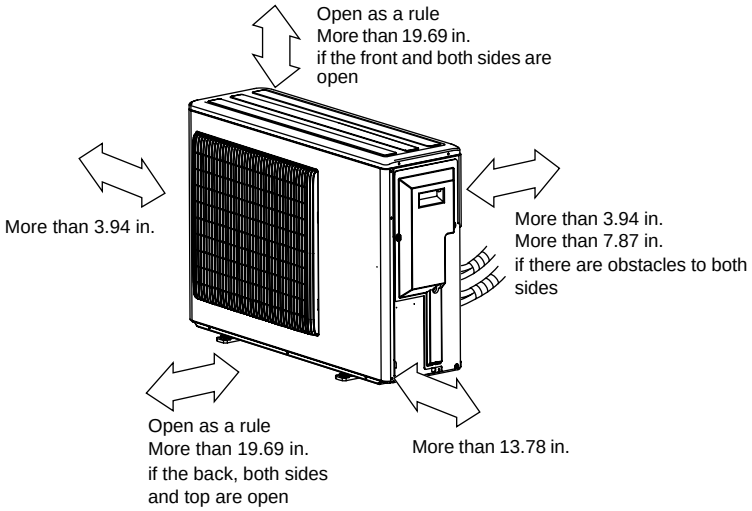
5 OUTLINES AND DIMENSIONS

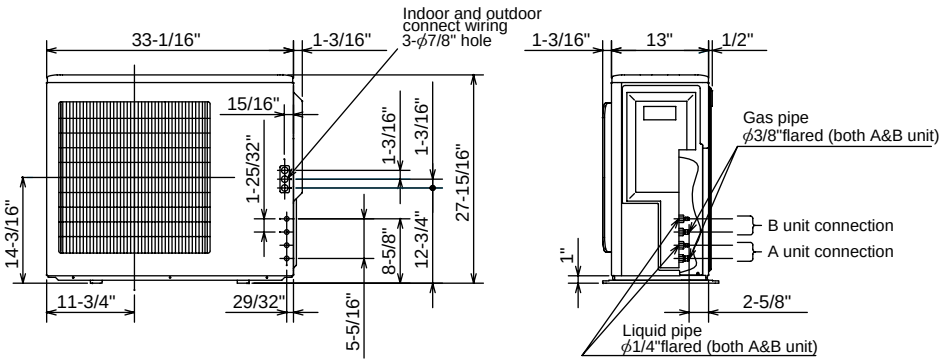
MXZ-2A20NA MXZ-2A20NA - 1

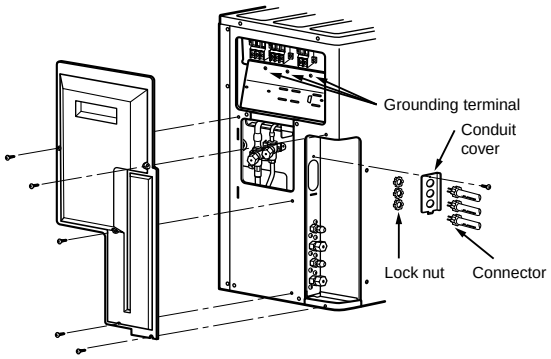
Unit: inch



REQUIRED SPACE

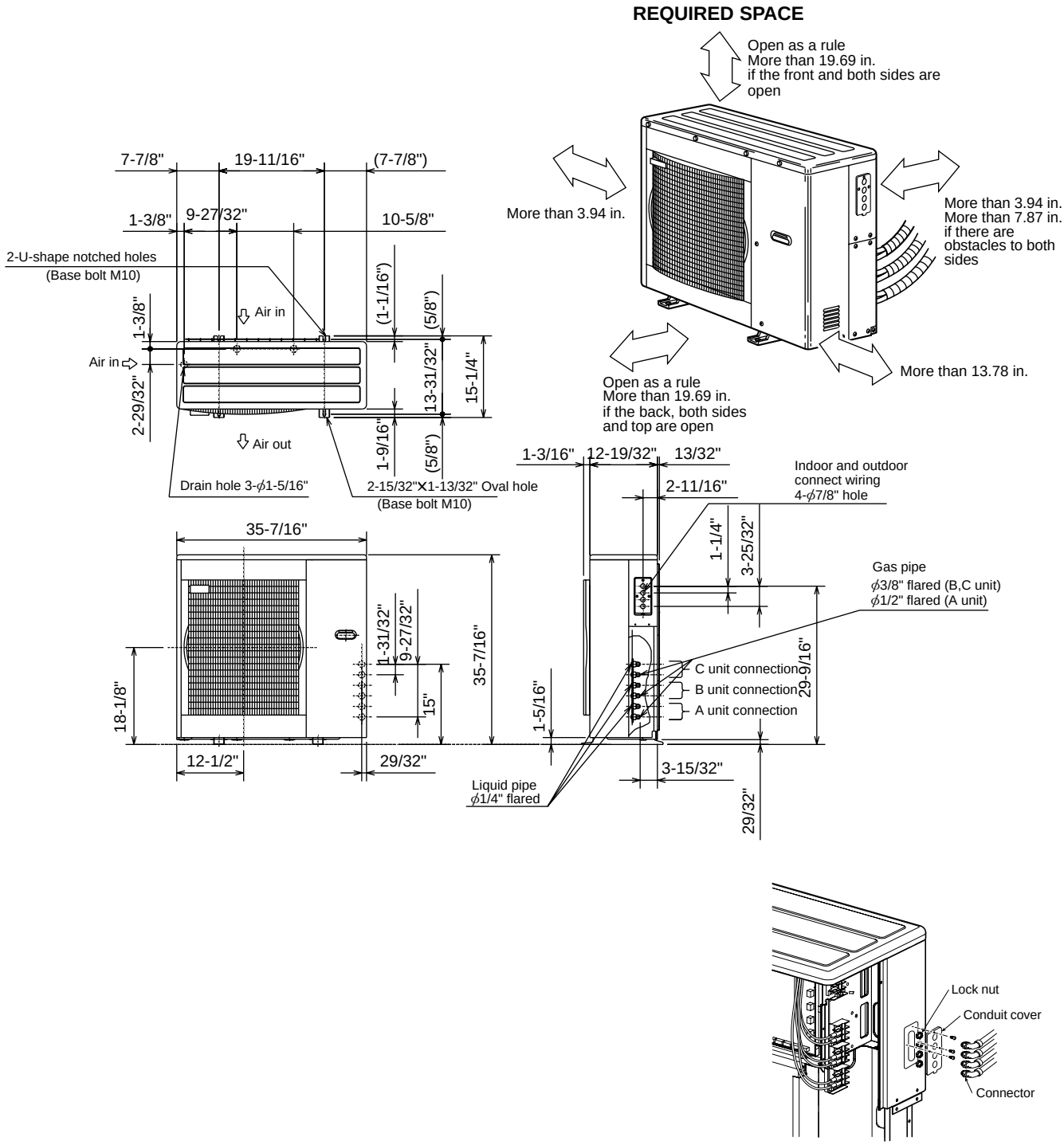






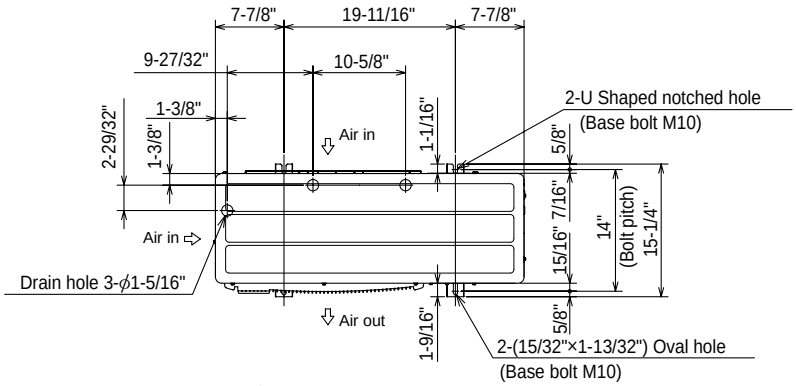
MXZ-3A30NA

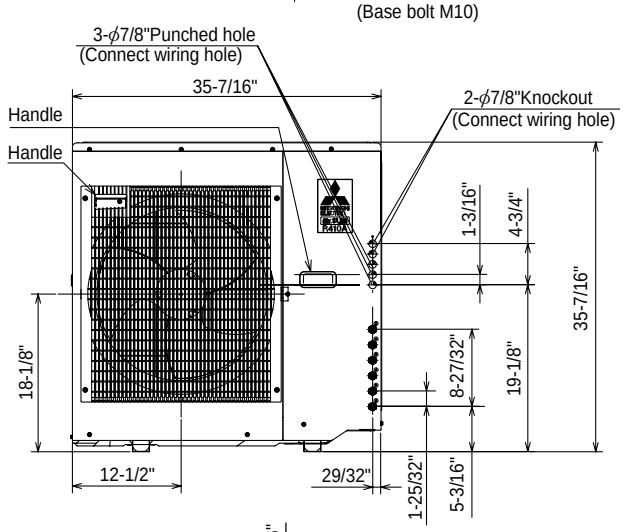
Unit: inch

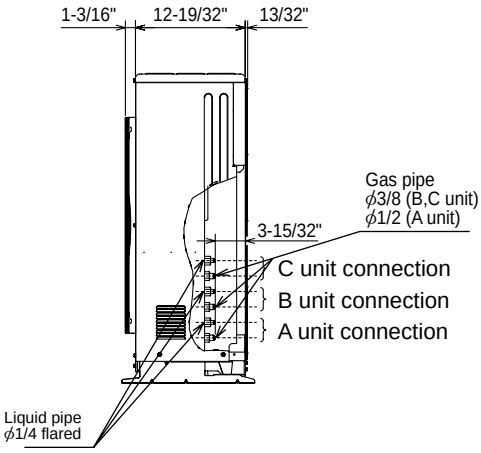


MXZ-3A30NA - 1

Unit: inch

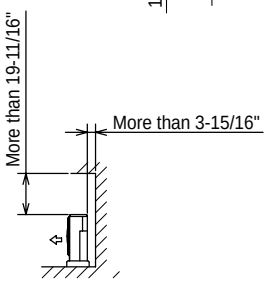




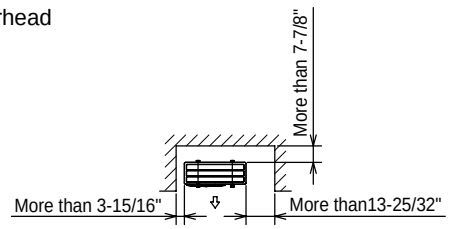


1.Installation space

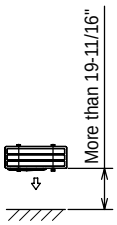
Note : Leave front and both sides clearance fully.

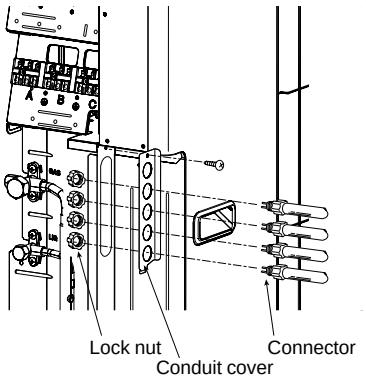


Note : Leave front and overhead clearance fully.

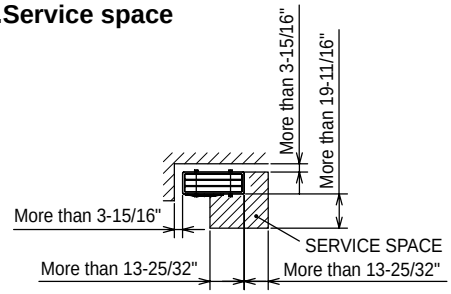


Note : Leave front, overhead and both sides clearance fully.



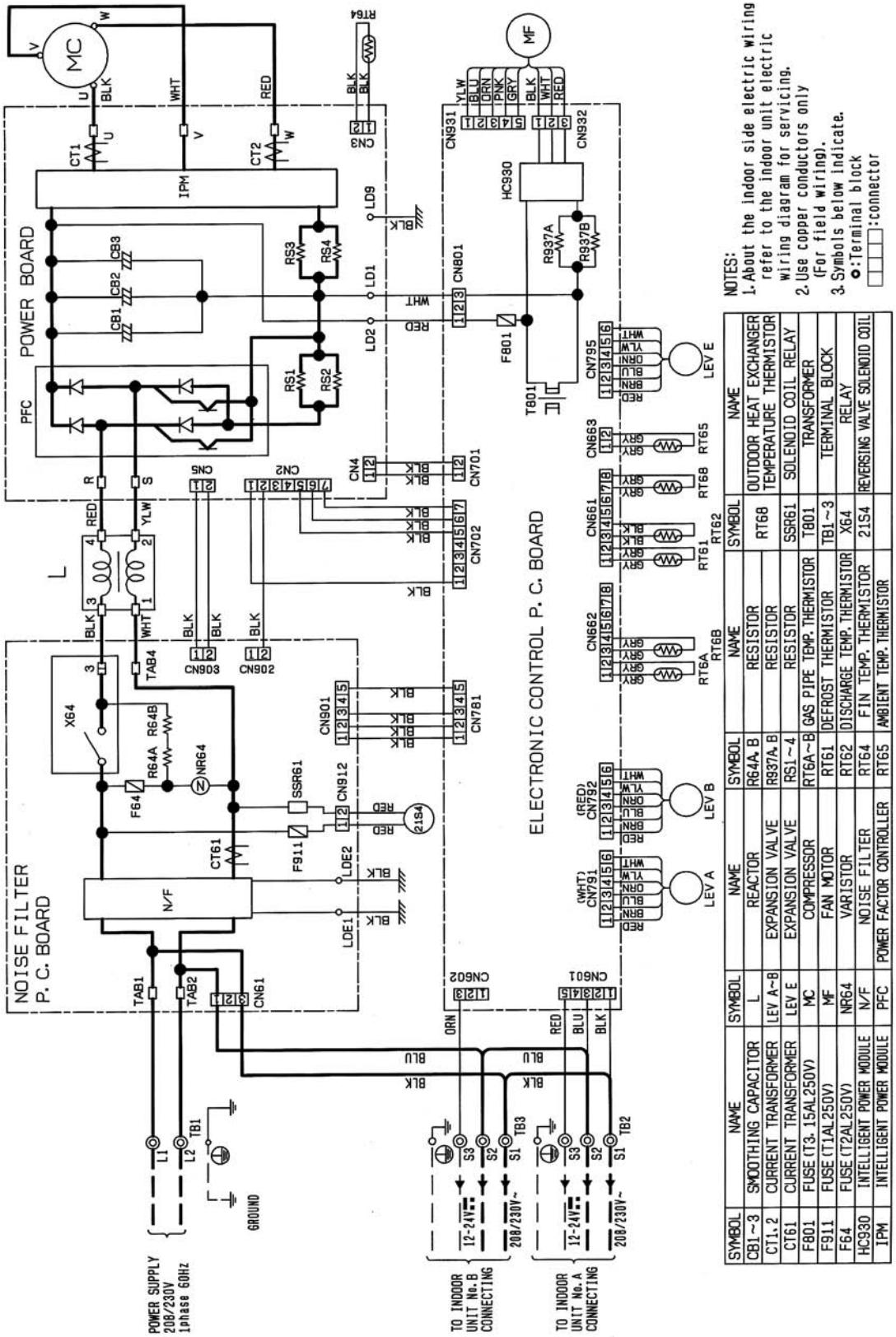


2.Service space



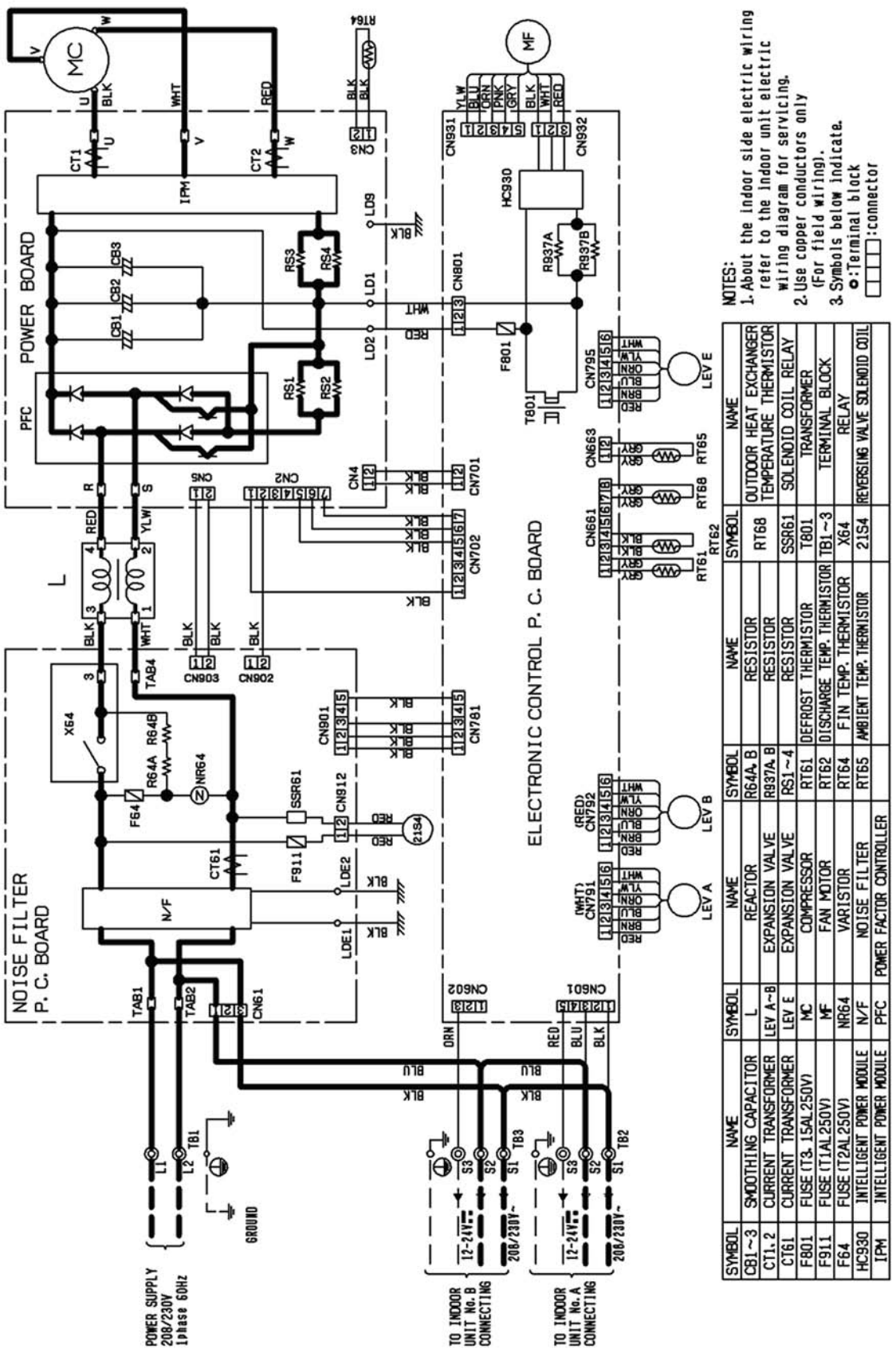
6 WIRING DIAGRAM

MXZ-2A20NA



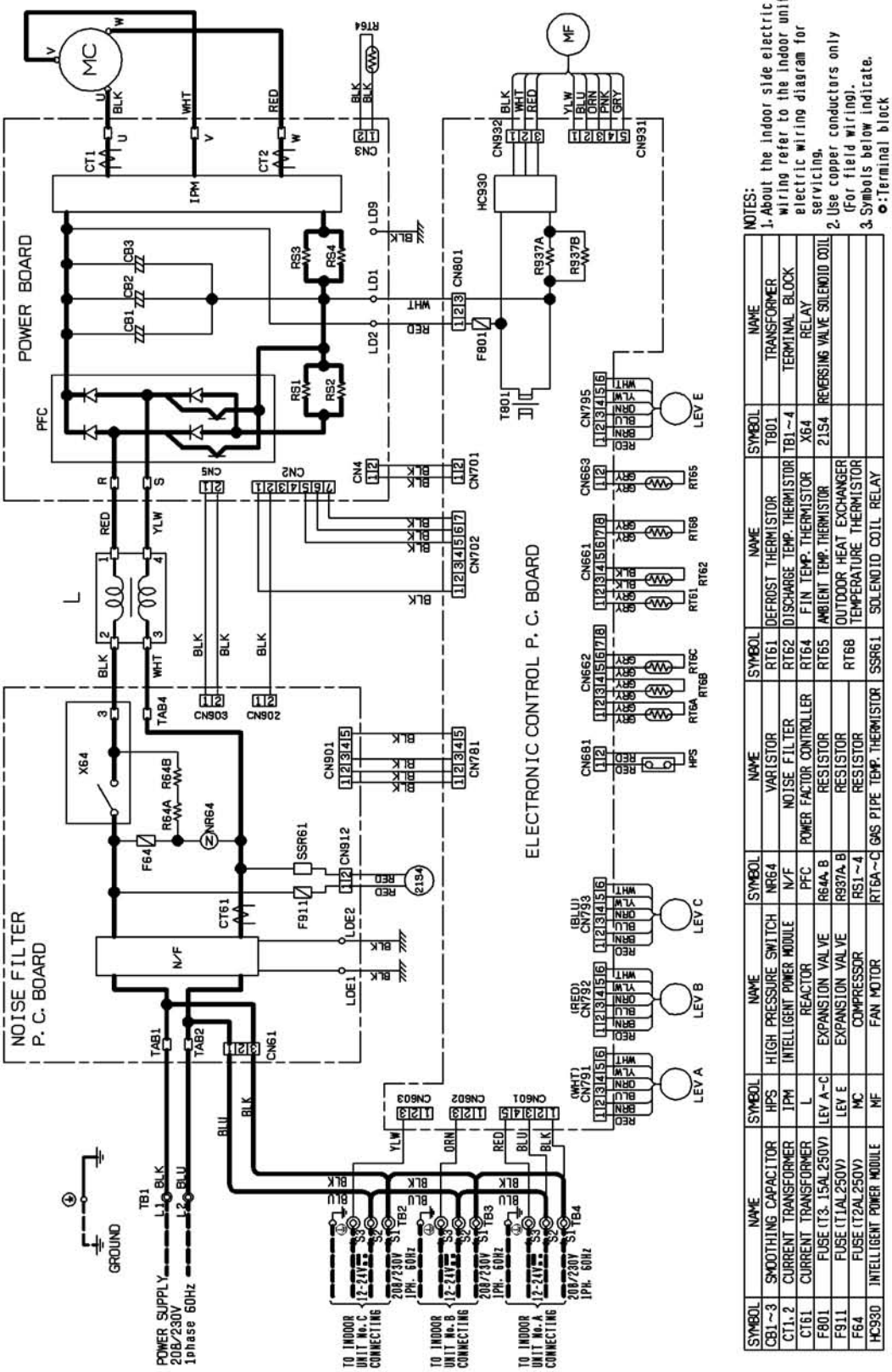
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	L	REACTOR	R64A, B	RESISTOR	RT68	OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR
CT1.2	CURRENT TRANSFORMER	LEV A~B	EXPANSION VALVE	R937A, B	RESISTOR		
CT61	CURRENT TRANSFORMER	LEV E	EXPANSION VALVE	RS1~4	RESISTOR	SSR61	SOLENOID COIL RELAY
F801	FUSE(T3.15AL250V)	MC	COMPRESSOR	RT6A~B	GAS PIPE TEMP. THERMISTOR	T801	TRANSFORMER
F911	FUSE(T1AL250V)	MF	FAN MOTOR	RT61	DEFROST THERMISTOR	TB1~3	TERMINAL BLOCK
F64	FUSE(T2AL250V)	NR64	VARISTOR	RT62	DISCHARGE TEMP. THERMISTOR	X64	RELAY
HC930	INTELLIGENT POWER MODULE	N/F	NOISE FILTER	RT64	FIN TEMP. THERMISTOR	21S4	REVERSING VALVE SOLENOID COIL
IPM	INTELLIGENT POWER MODULE	PFC	POWER FACTOR CONTROLLER	RT65	AMBIENT TEMP. THERMISTOR		

MXZ-2A20NA - 1



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	L	REACTOR	R64A, B	RESISTOR	RT68	OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR
CT1, 2	CURRENT TRANSFORMER	LEV A~B	EXPANSION VALVE	R937A, B	RESISTOR		
CT61	CURRENT TRANSFORMER	LEV E	EXPANSION VALVE	RS1~4	RESISTOR	SSR61	SOLENOID COIL RELAY
F801	FUSE(T3.15AL250V)	MC	COMPRESSOR	RT61	DEFROST THERMISTOR	T801	TRANSFORMER
F911	FUSE(T1AL250V)	MF	FAN MOTOR	RT62	DISCHARGE TEMP. THERMISTOR	TB1~3	TERMINAL BLOCK
F64	FUSE(T2AL250V)	NR64	VARISTOR	RT64	FIN TEMP. THERMISTOR	X64	RELAY
HC930	INTELLIGENT POWER MODULE	N/F	NOISE FILTER	RT65	AMBIENT TEMP. THERMISTOR	21S4	REVERSING VALVE SOLENOID COIL
IPM	INTELLIGENT POWER MODULE	PFC	POWER FACTOR CONTROLLER				

MXZ-3A30NA

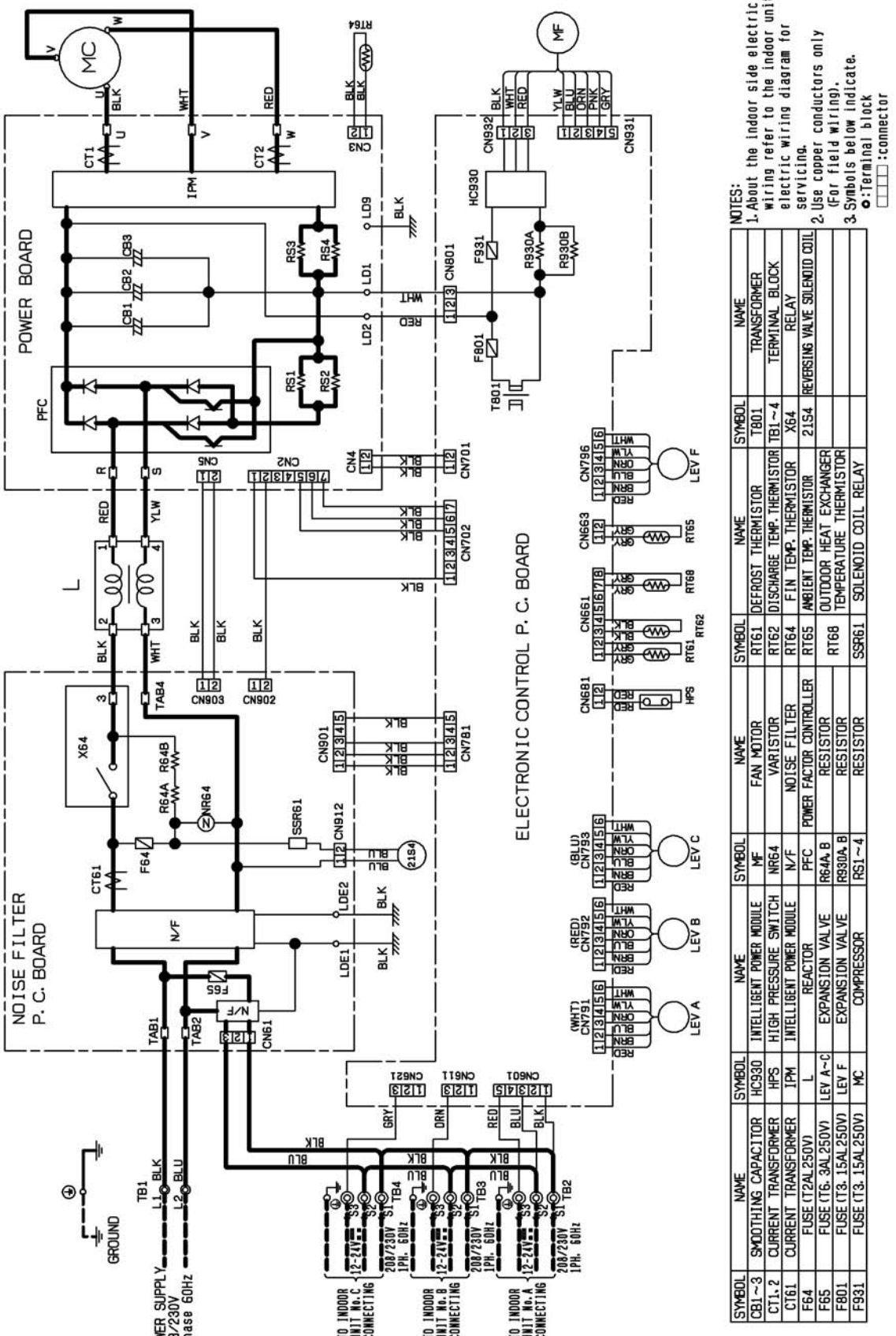


SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	HPS	HIGH PRESSURE SWITCH	NR64	VARISTOR	RT61	DEFROST THERMISTOR
CT1,2	CURRENT TRANSFORMER	IPM	INTELLIGENT POWER MODULE	N/F	NOISE FILTER	RT62	DISCHARGE TEMP. THERMISTOR
CT61	CURRENT TRANSFORMER	L	REACTOR	PFC	POWER FACTOR CONTROLLER	RT64	FIN TEMP. THERMISTOR
F801	FUSE(T3.15AL250V)	LEV A~C	EXPANSION VALVE	R64A, B	RESISTOR	RT65	AMBIENT TEMP. THERMISTOR
F911	FUSE(T1AL250V)	LEV E	EXPANSION VALVE	R937A, B	RESISTOR	RT68	OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR
F64	FUSE(T2AL250V)	MC	COMPRESSOR	RS1~4	RESISTOR		
HC930	INTELLIGENT POWER MODULE	MF	FAN MOTOR	RT6A~C	GAS PIPE TEMP. THERMISTOR	SSR61	SOLENOID COIL RELAY

SYMBOL	NAME
T801	TRANSFORMER
TB1~4	TERMINAL BLOCK
X64	RELAY
21S4	REVERSING VALVE SOLENOID COIL

NOTES:
1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only (For field wiring).
3. Symbols below indicate.
●:Terminal block
□□□□:connector

MXZ-3A30NA - 1



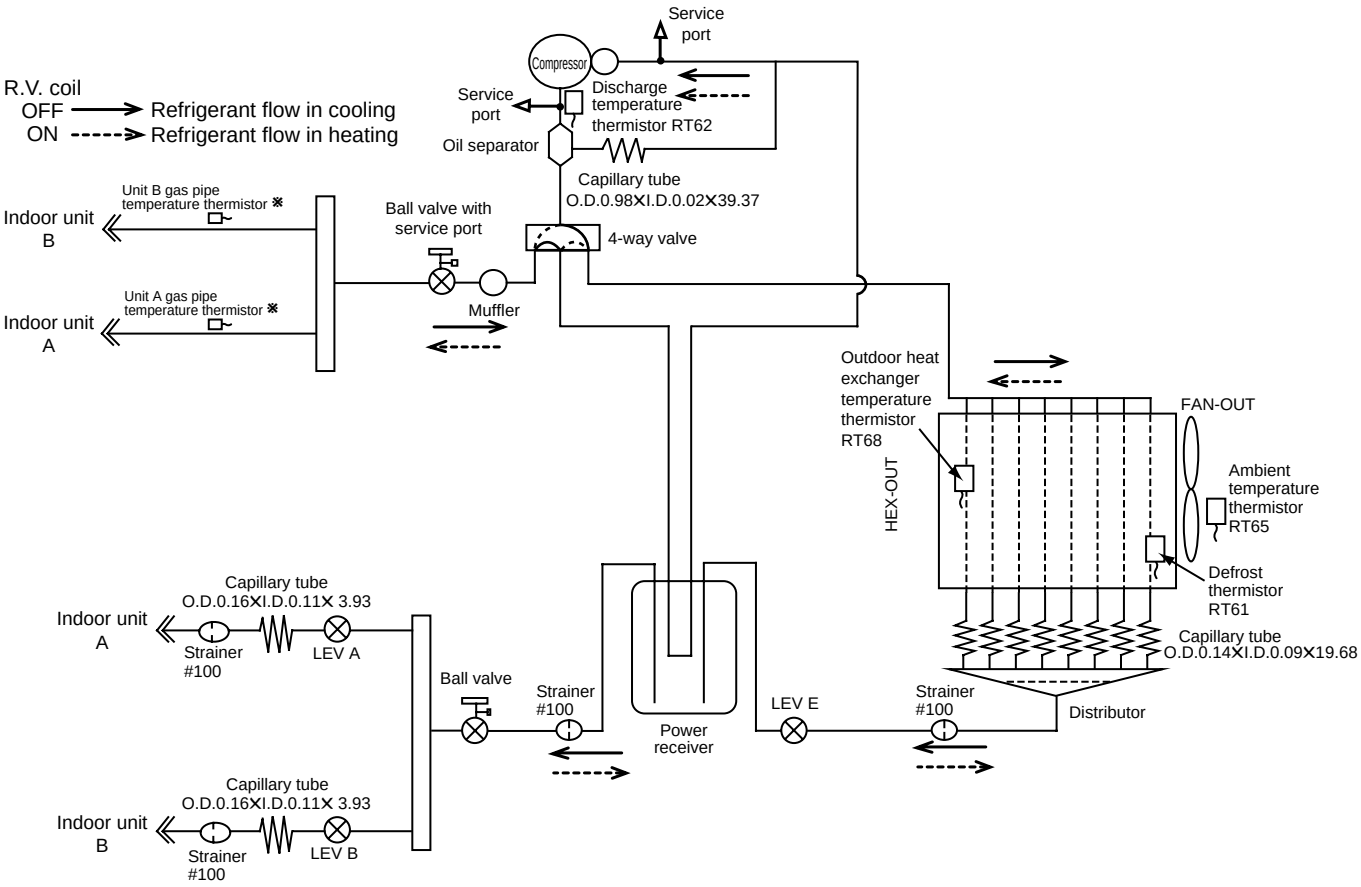
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	HC930	INTELLIGENT POWER MODULE	MF	FAN MOTOR	RT61	DEFROST THERMISTOR
CT1.2	CURRENT TRANSFORMER	HPS	HIGH PRESSURE SWITCH	NR64	VARISTOR	RT62	DISCHARGE TEMP. THERMISTOR
CT61	CURRENT TRANSFORMER	IPM	INTELLIGENT POWER MODULE	N/F	NOISE FILTER	RT64	FIN TEMP. THERMISTOR
F64	FUSE (T2AL250V)	L	REACTOR	PFC	POWER FACTOR CONTROLLER	RT65	AMBIENT TEMP. THERMISTOR
F65	FUSE (T6.3AL250V)	LEV A~C	EXPANSION VALVE	R64A, B	RESISTOR	RT68	OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR
F801	FUSE (T3.15AL250V)	LEV F	EXPANSION VALVE	R930A, B	RESISTOR		
F931	FUSE (T3.15AL250V)	MC	COMPRESSOR	RS1~4	RESISTOR	SSR61	SOLENOID COIL RELAY

SYMBOL	NAME
T801	TRANSFORMER
TB1~4	TERMINAL BLOCK
X64	RELAY
21S4	REVERSING VALVE SOLENOID COIL

NOTES:
1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only (For field wiring).
3. Symbols below indicate.
   ○: Terminal block
   □□□: connector

7 REFRIGERANT SYSTEM DIAGRAM

MXZ-2A20NA MXZ-2A20NA - 1 **Unit:mm**



※ Except MXZ-2A20NA - 1.

Operating Range **MXZ-2A20NA** **MXZ-2A20NA - 1**

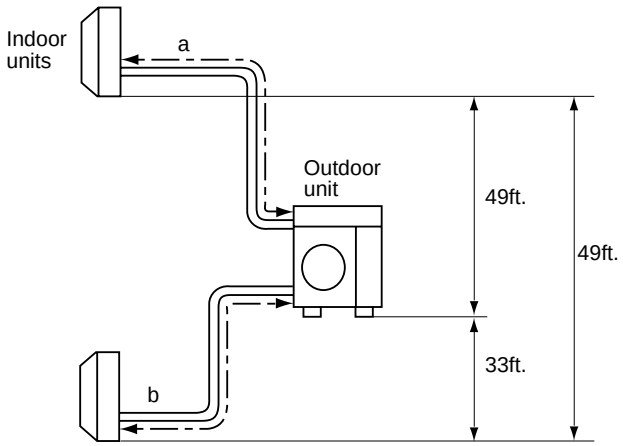
		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	95˚FDB, 71˚FWB	115˚FDB
	Minimum	67˚FDB, 57˚FWB	14˚FDB
Heating	Maximum	80˚FDB, 67˚FWB	75˚FDB, 65˚FWB
	Minimum	70˚FDB, 60˚FWB	14˚FDB, 12˚FWB

MAX. REFRIGERANT PIPING LENGTH & PIPE SIZE SELECTION

MXZ-2A20NA **MXZ-2A20NA - 1**

Piping length each indoor unit (a, b)	82ft. MAX.
Total piping length (a+b)	164ft. MAX.
Bending point for each unit	25 MAX.
Total bending point	60 MAX.

✻It does not matter which unit is higher.



- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes,refer to the tables below.
- When diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe, see 15-1.

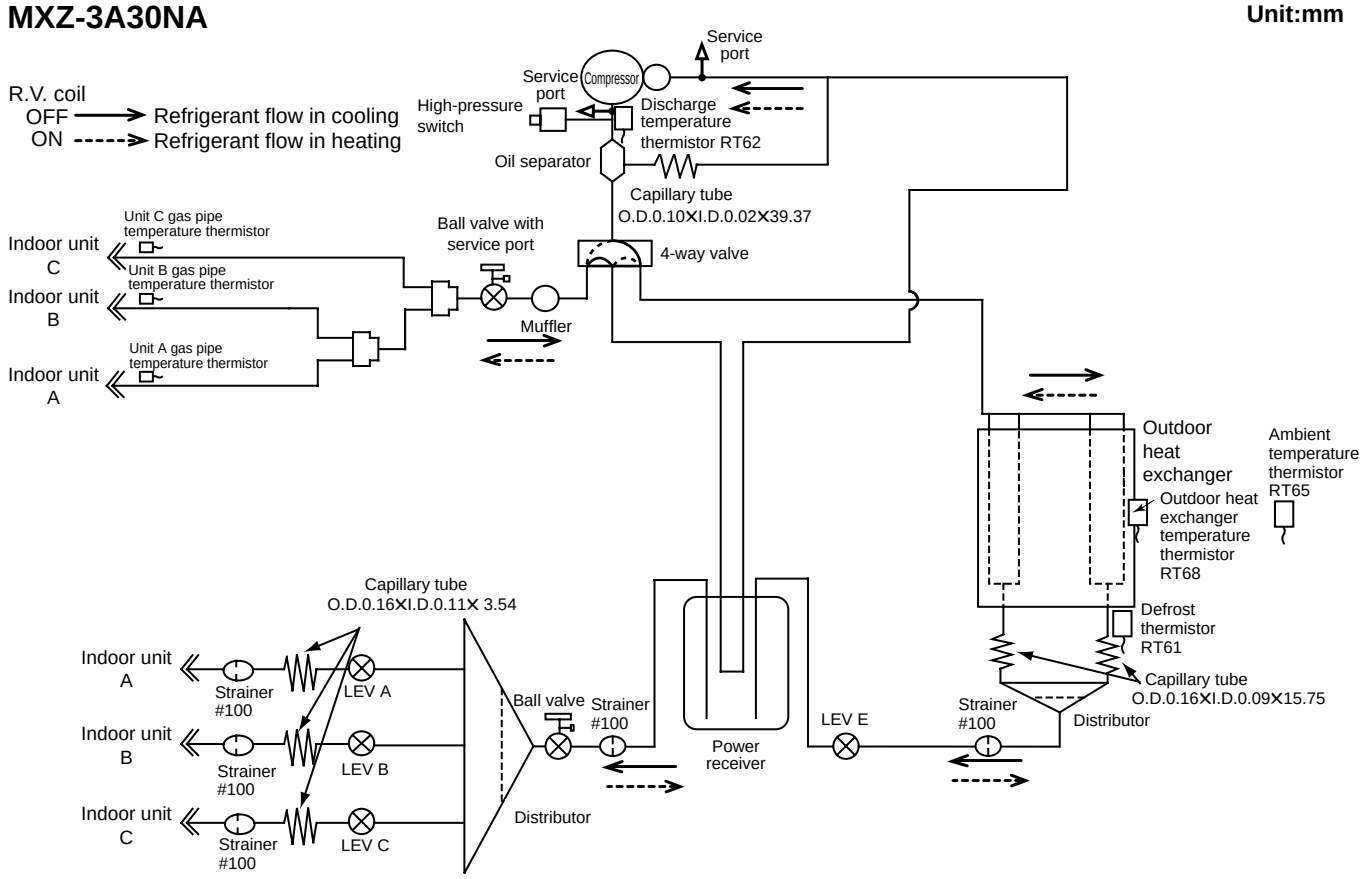
Unit : inch

Indoor unit			Extension pipe diameter	
class	Pipe diameter			
09	Liquid	1/4	Liquid	1/4
	Gas	3/8	Gas	3/8
12	Liquid	1/4	Liquid	1/4
	Gas	3/8	Gas	3/8
15	Liquid	1/4	Liquid	1/4
	Gas	3/8	Gas	3/8

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	1/4
	Gas	3/8
Indoor unit B	Liquid	1/4
	Gas	3/8

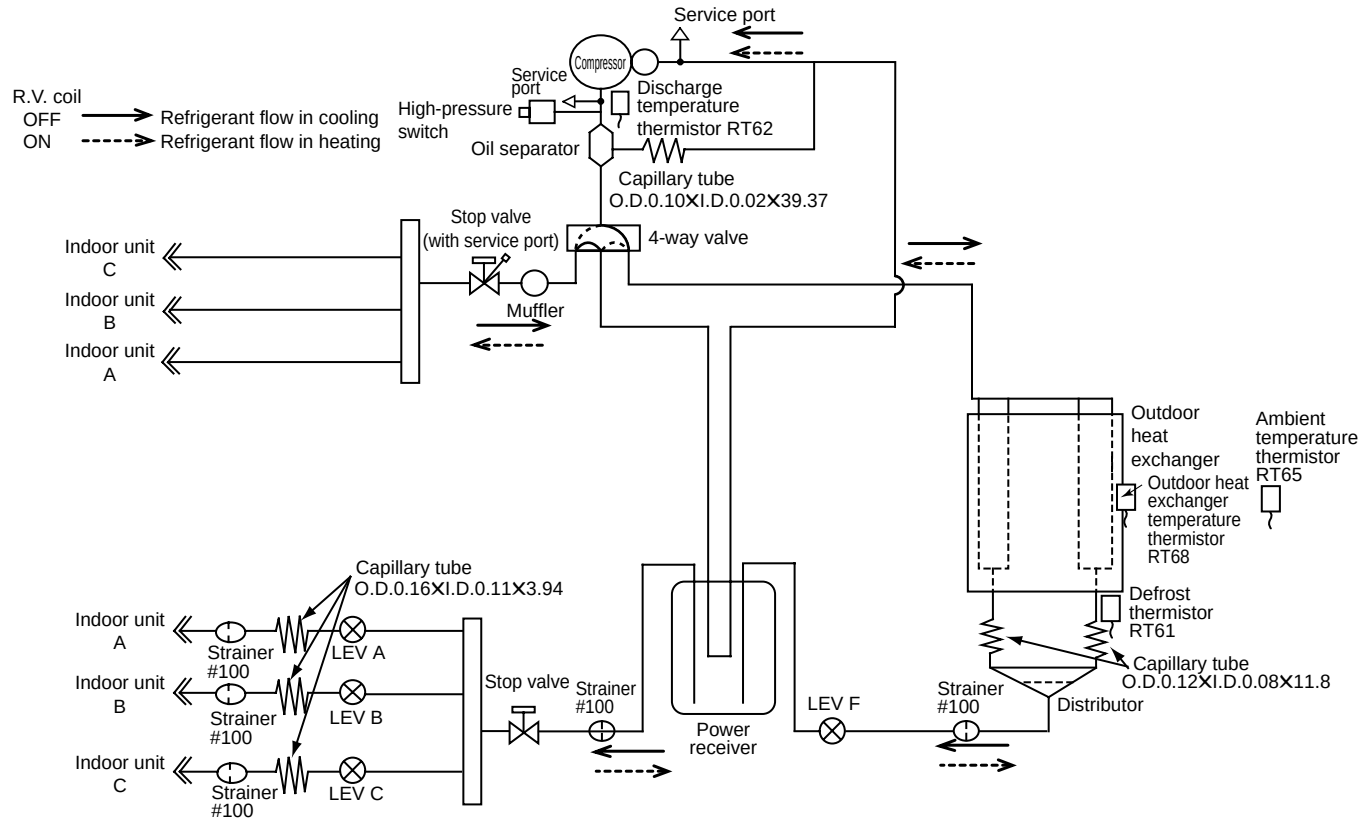
MXZ-3A30NA

Unit:mm



MXZ-3A30NA - 1

Unit:mm



Operating Range **MXZ-3A30NA MXZ-3A30NA - 1**

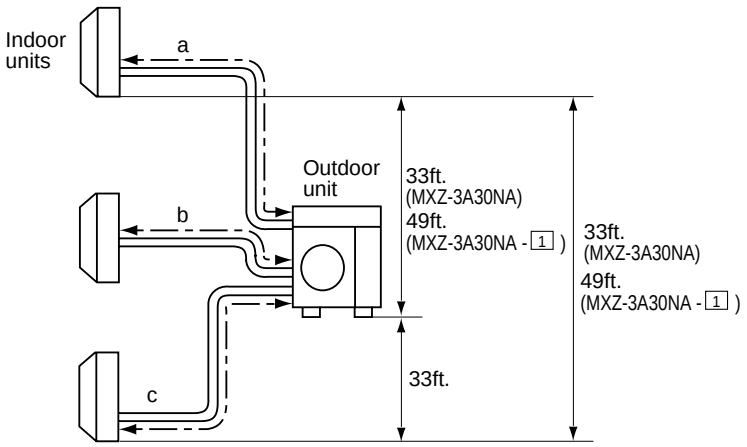
		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	95˚FDB, 71˚FWB	115˚FDB
	Minimum	67˚FDB, 57˚FWB	14˚FDB
Heating	Maximum	80˚FDB, 67˚FWB	75˚FDB, 65˚FWB
	Minimum	70˚FDB, 60˚FWB	14˚FDB, 12˚FWB

MAX. REFRIGERANT PIPING LENGTH & PIPE SIZE SELECTION

MXZ-3A30NA MXZ-3A30NA - 1

Piping length each indoor unit (a, b, c)	82ft. MAX.
Total piping length (a+b+c)	230ft. MAX.
Bending point for each unit	25 MAX.
Total bending point	70 MAX.

✻It does not matter which unit is higher.



- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes,refer to the tables below.
- When diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe, see 15-1.

Unit : inch

Indoor unit			Extension pipe diameter	
class	Pipe diameter			
09	Liquid	1/4	Liquid	1/4
	Gas	3/8	Gas	3/8
12	Liquid	1/4	Liquid	1/4
	Gas	3/8	Gas	3/8
15	Liquid	1/4	Liquid	1/4
	Gas	3/8	Gas	3/8
17	Liquid	1/4	Liquid	1/4
	Gas	1/2	Gas	1/2
24	Liquid	1/4	Liquid	1/4
	Gas	5/8	Gas	5/8

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	1/4
	Gas	1/2
Indoor unit B	Liquid	1/4
	Gas	3/8
Indoor unit C	Liquid	1/4
	Gas	3/8

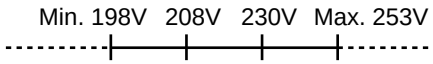
8 DATA

Model				MXZ-2A20NA MXZ-2A20NA - 1	
Item			Unit	Cooling	Heating
Total	Capacity		Btu / h	20,000	22,000
	SHF		—	–	–
	Input		kW	2.15	1.78
Electrical circuit	Outdoor unit			MXZ-2A20NA MXZ-2A20NA - 1	
	Power supply (V, phase, Hz)			208/230, 1, 60	
	Input		kW	2.113	1.743
	Comp. current (208/230V)		A	10.08/9.11	8.24/7.45
	Fan motor current (208/230V)		A	0.43/0.39	0.43/0.39
Refrigerant circuit	Condensing pressure		PSIG	435	363
	Suction pressure		PSIG	128	101
	Discharge temperature		˚F	190	169
	Condensing temperature		˚F	122	106
	Suction temperature		˚F	65	40
	Comp. shell bottom temp.		˚F	146	144
	Ref. pipe length [Total pipe length for multi-system]		ft.	25 [50]	
	Refrigerant charge (R410A)		—	5lb.15oz.	
Outdoor unit	Intake air temperature	DB	˚F	95	47
		WB	˚F	—	43
	Fan speed		rpm	650	700
	Airflow		CFM	1,485	1,640

Model				MXZ-3A30NA MXZ-3A30NA - 1	
Item			Unit	Cooling	Heating
Total	Capacity		Btu / h	28,400	28,600
	SHF		—	–	–
	Input		kW	3.25	2.18
Electrical circuit	Outdoor unit			MXZ-3A30NA MXZ-3A30NA - 1	
	Power supply (V, phase, Hz)			208/230, 1, 60	
	Input		kW	3.197	2.127
	Comp. current (208/230V)		A	15.45/13.97	10.15/9.18
	Fan motor current (208/230V)		A	0.43/0.39	0.43/0.39
Refrigerant circuit	Condensing pressure		PSIG	506	330
	Suction pressure		PSIG	136	96
	Discharge temperature		˚F	190	150
	Condensing temperature		˚F	132	100
	Suction temperature		˚F	48	30
	Comp. shell bottom temp.		˚F	146	125
	Ref. pipe length [Total pipe length for multi-system]		ft.	25 [75]	
	Refrigerant charge (R410A)		—	7lb.11oz.	
Outdoor unit	Intake air temperature	DB	˚F	95	47
		WB	˚F	—	43
	Fan speed		rpm	520	600
	Airflow		CFM	1,365	1,605

8-1. OPERATING RANGE

(1) POWER SUPPLY

	Model	Rating	Guaranteed Voltage
Outdoor unit	MXZ-2A20NA MXZ-2A20NA - [1] MXZ-3A30NA MXZ-3A30NA - [1]	208/230V 60Hz 1ϕ	

(2) OPERATION

MXZ-2A20NA MXZ-2A20NA - [1]

Function	Condition \ Intake air temperature	Indoor		Outdoor	
		DB (˚F)	WB (˚F)	DB (˚F)	WB (˚F)
Cooling	"A" Cooling Steady State at rated compressor Speed	80	67	95	(75)
	"B-2" Cooling Steady State at rated compressor Speed	80	67	82	(65)
	"B-1" Cooling Steady State at minimum compressor Speed	80	67	82	(65)
	Low ambient Cooling Steady State at minimum compressor Speed	80	67	67	(53.5)
	Intermediate Cooling Steady State At Intermediate compressor Speed※	80	67	87	(69)
Heating	Standard Rating-Heating at rated compressor Speed	70	60	47	43
	Low temperature Heating at rated compressor Speed	70	60	17	15
	Max. temperature Heating at minimum compressor Speed	70	60	62	56.5
	High temperature Heating at minimum compressor Speed	70	60	47	43
	Frost Accumulation at rated compressor Speed	70	60	35	33
	Frost Accumulation at Intermediate compressor Speed※	70	60	35	33

※At Intermediate compressor Speed
=("Cooling rated compressor speed" - "minimum compressor speed") / 3 + "minimum compressor speed".

MXZ-3A30NA MXZ-3A30NA - 1

Function	Intake air temperature / Condition	Indoor		Outdoor	
		DB (˚F)	WB (˚F)	DB (˚F)	WB (˚F)
Cooling	"A" Cooling Steady State at rated compressor Speed	80	67	95	(75)
	"B-2" Cooling Steady State at rated compressor Speed	80	67	82	(65)
	"B-1" Cooling Steady State at minimum compressor Speed	80	67	82	(65)
	Low ambient Cooling Steady State at minimum compressor Speed	80	67	67	(53.5)
	Intermediate Cooling Steady State At Intermediate compressor Speed※	80	67	87	(69)
Heating	Standard Rating-Heating at rated compressor Speed	70	60	47	43
	Low temperature Heating at rated compressor Speed	70	60	17	15
	Max. temperature Heating at minimum compressor Speed	70	60	62	56.5
	High temperature Heating at minimum compressor Speed	70	60	47	43
	Frost Accumulation at rated compressor Speed	70	60	35	33
	Frost Accumulation at Intermediate compressor Speed※	70	60	35	33

※At Intermediate compressor Speed
=("Cooling rated compressor speed" - "minimum compressor speed") / 3 + "minimum compressor speed".

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The standard specifications apply only to the operation of the air conditioner under normal conditions.
Since operating conditions vary according to the areas where these units are installed, the following information has been provided to clarify the operating characteristics of the air conditioner under the conditions indicated by the performance curve.

(1) GUARANTEED VOLTAGE

198 ~ 253V 60Hz

(2) AIR FLOW

Air flow should be set at MAX.

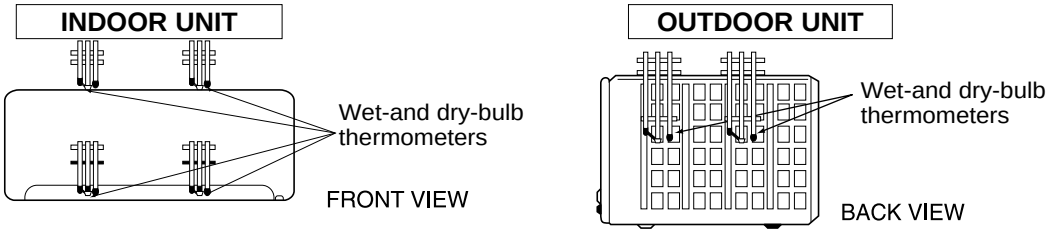
(3) MAIN READINGS

(1) Indoor intake air wet-bulb temperature : °FWB
(2) Indoor outlet air wet-bulb temperature : °FWB } Cooling
(3) Outdoor intake air dry-bulb temperature : °FDB
(4) Total input: W
(5) Indoor intake air dry-bulb temperature : °FDB
(6) Outdoor intake air wet-bulb temperature : °FWB } Heating
(7) Total input : W

Indoor air wet/dry-bulb temperature difference on the left side of the following chart shows the difference between the indoor intake air wet/dry-bulb temperature and the indoor outlet air wet/dry-bulb temperature for your reference at service.

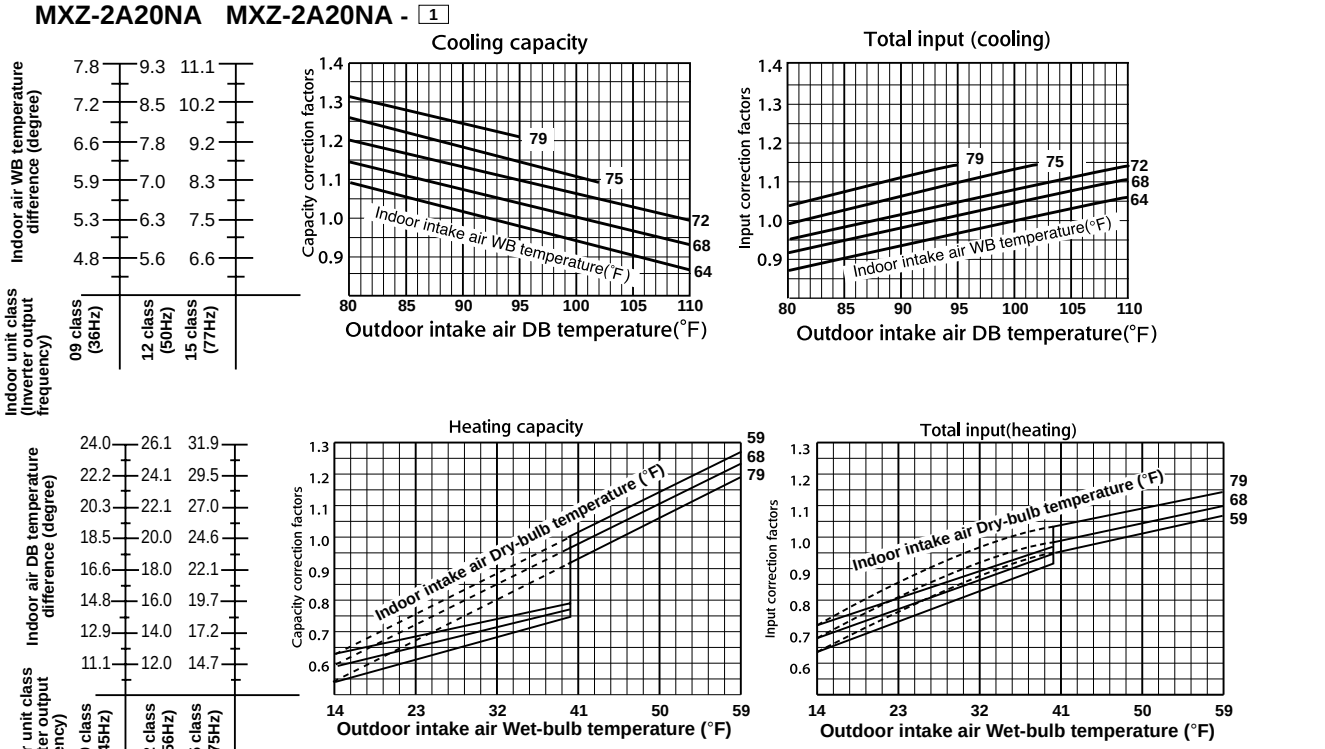
How to measure the indoor air wet-bulb/dry-bulb temperature difference

1. Attach at least 2 sets of wet-and dry-bulb thermometers to the indoor air intake as shown in the figure, and at least 2 sets of wet-and dry-bulb thermometers to the indoor air outlet. The thermometers must be attached to the position where air speed is high.
2. Attach at least 2 sets of wet-and dry-bulb thermometers to the outdoor air intake. Cover the thermometers to prevent direct rays of the sun.
3. Check that the air filter is cleaned.
4. Open windows and doors of room.
5. Press the EMERGENCY OPERATION switch once(twice) to start the EMERGENCY COOL(HEAT) MODE.
6. Compressor starts running at 33Hz (COOL) or 45Hz (HEAT). The frequency at each operation mode is fixed.
7. When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
8. 10 minutes later, measure temperature again and check that the temperature does not change.



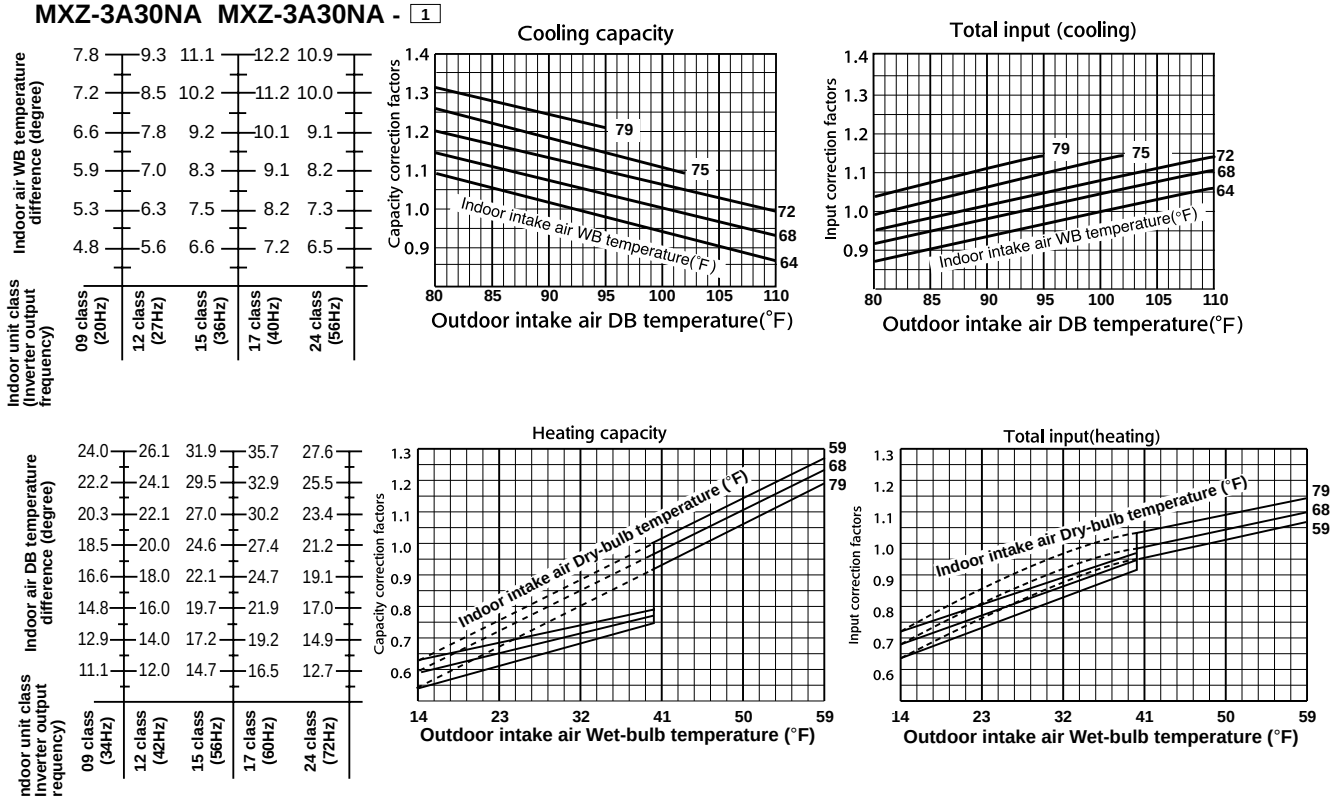
8-2. CAPACITY AND THE INPUT CURVES

MXZ-2A20NA MXZ-2A20NA - 1



NOTE:The above broken lines are for the heating operation without any frost and defrost operation.

MXZ-3A30NA MXZ-3A30NA - 1

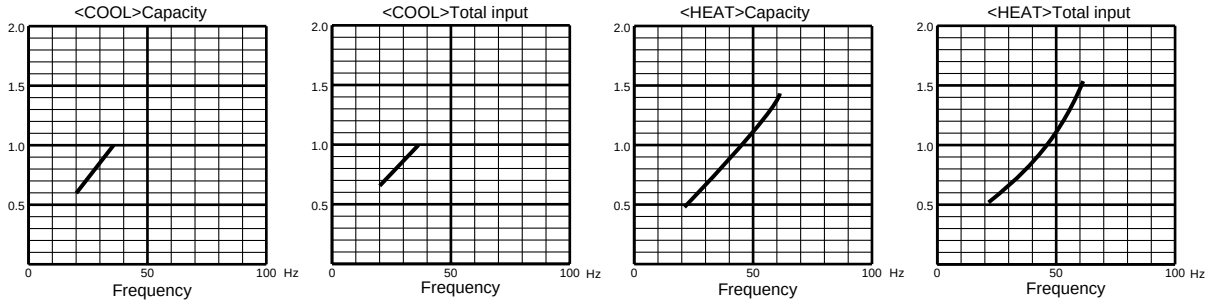


NOTE:The above broken lines are for the heating operation without any frost and defrost operation.

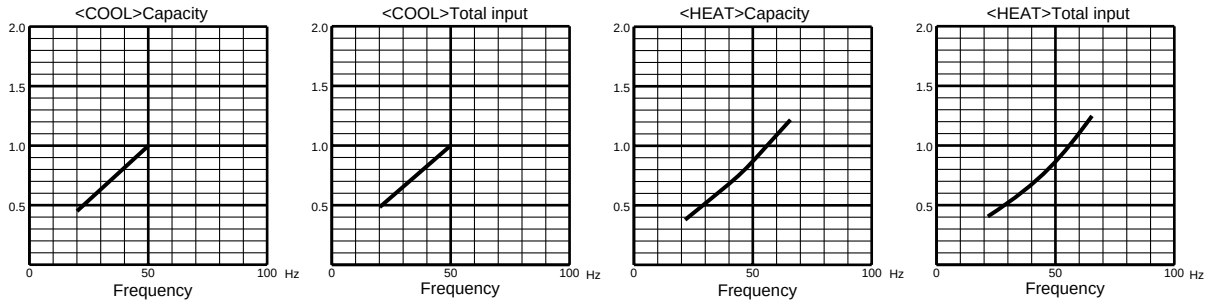
8-3. Capacity and input correction by means of inverter output frequency

(OUTDOOR UNIT : MXZ-2A20NA MXZ-2A20NA - 1)

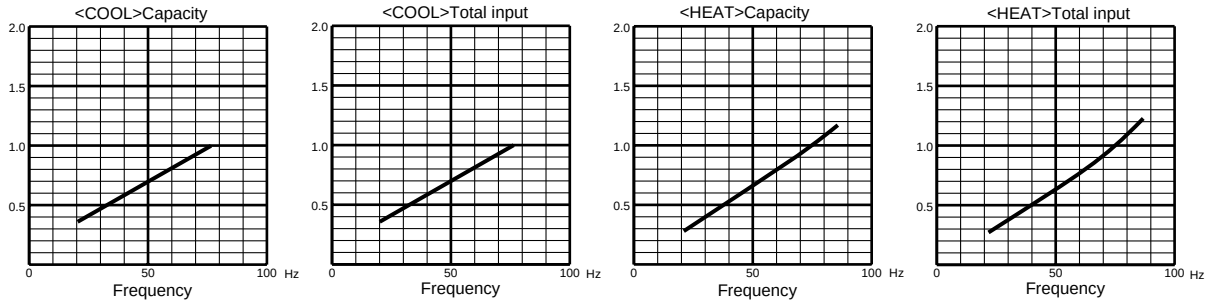
1. 09-class unit in single operation



2. 12-class unit in single operation

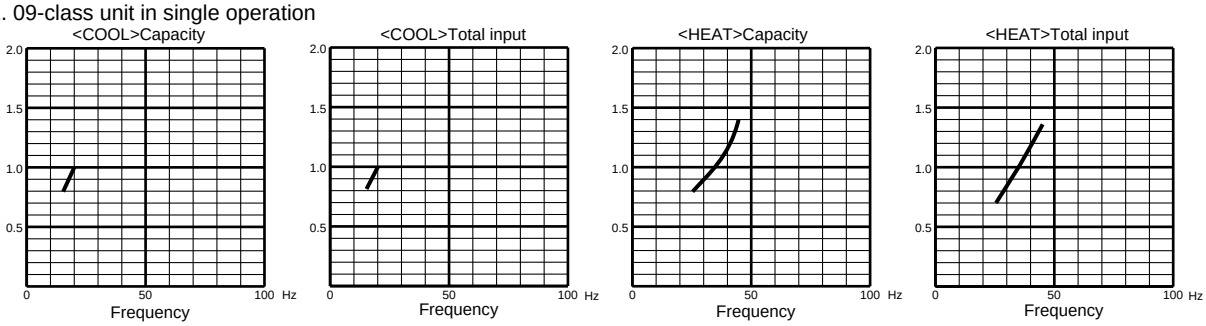


3. 15-class unit in single operation

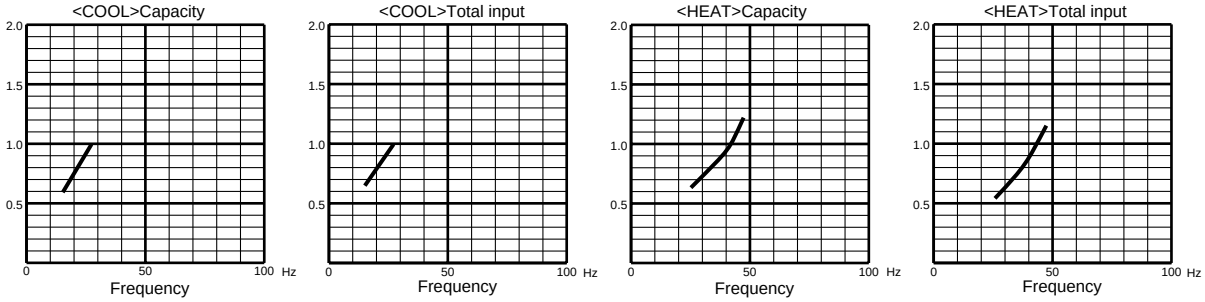


(OUTDOOR UNIT:MXZ-3A30NA MXZ-3A30NA - 1)

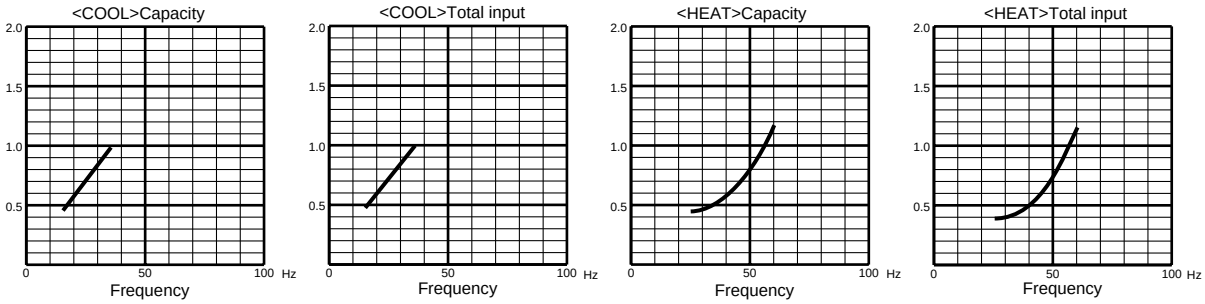
1. 09-class unit in single operation



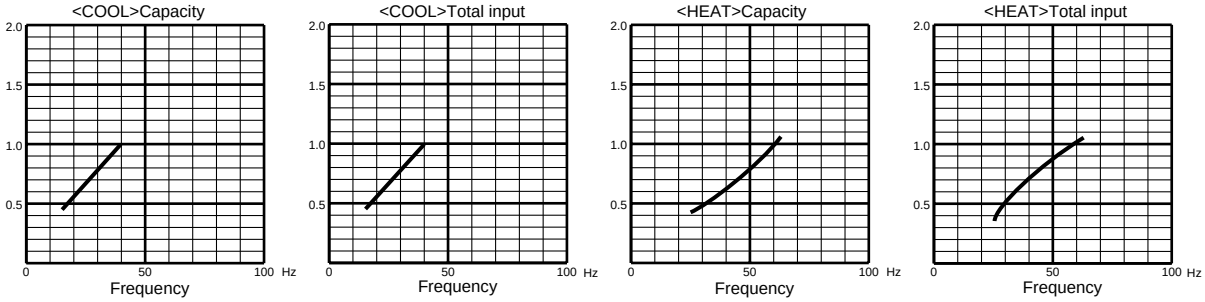
2. 12-class unit in single operation



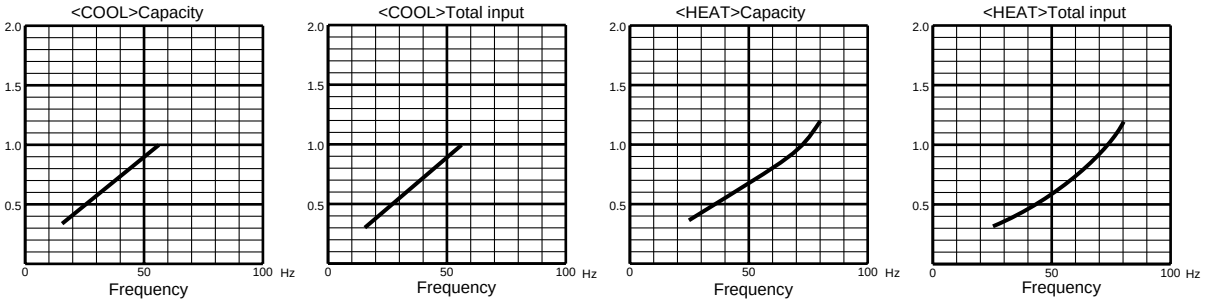
3. 15-class unit in single operation



4. 17-class unit in single operation



5. 24-class unit in single operation



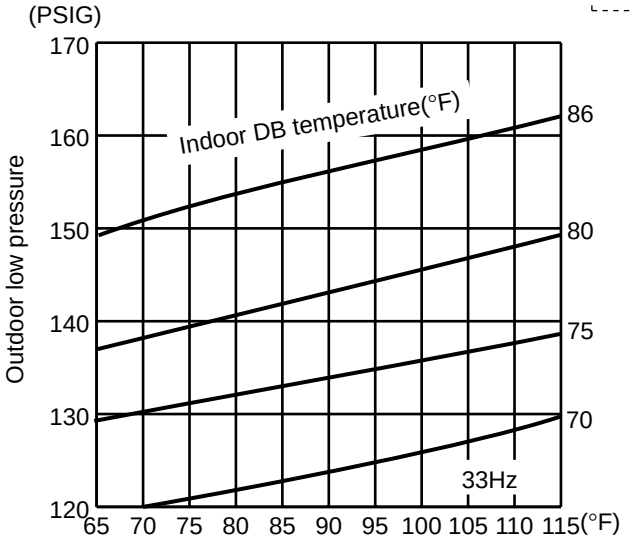
8-4. Outdoor low pressure and outdoor unit current

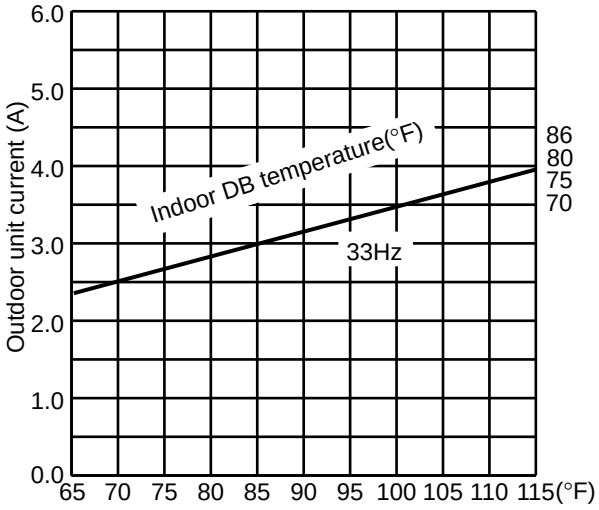
1. 09-class unit in single operation (OUTDOOR UNIT : MXZ-2A20NA MXZ-2A20NA - 1)

(1) COOL operation

①Data is based on the condition of indoor humidity 50%
②Air flow speed : High
③Inverter output frequency : 33Hz

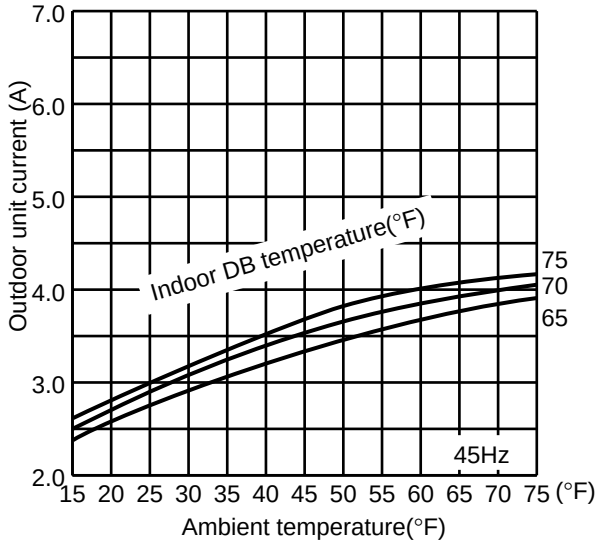
<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 33Hz (COOL) or 45Hz (HEAT).
4.Indoor fan runs at High speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

①Data is based on the condition of indoor humidity 75%
②Set air flow to High speed.
③Inverter output frequency is 45Hz.

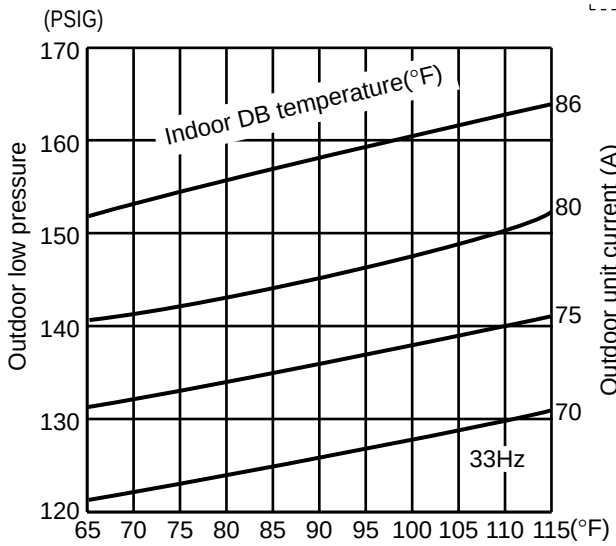


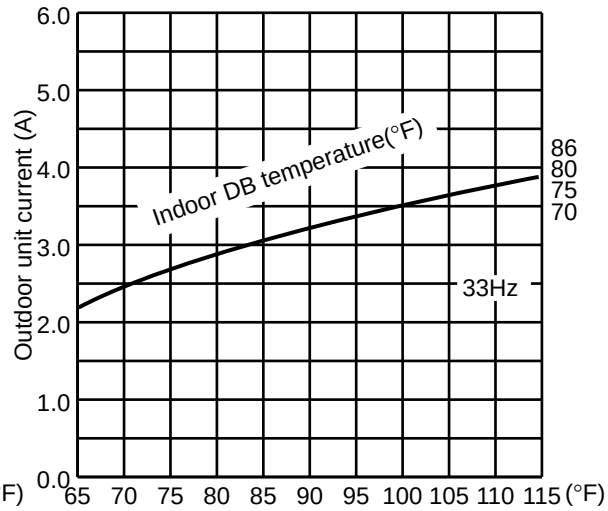
2. 12-class unit in single operation (OUTDOOR UNIT : MXZ-2A20NA MXZ-2A20NA - 1)

(1) COOL operation

①Data is based on the condition of indoor humidity 50%
②Air flow speed : High
③Inverter output frequency : 33Hz

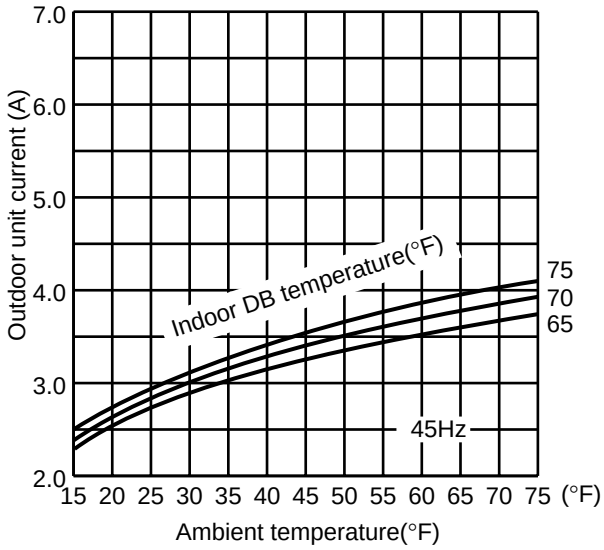
<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 33Hz (COOL) or 45Hz (HEAT).
4.Indoor fan runs at High speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

①Data is based on the condition of outdoor humidity 75%.
②Set air flow to High speed.
③Inverter output frequency is 45Hz.

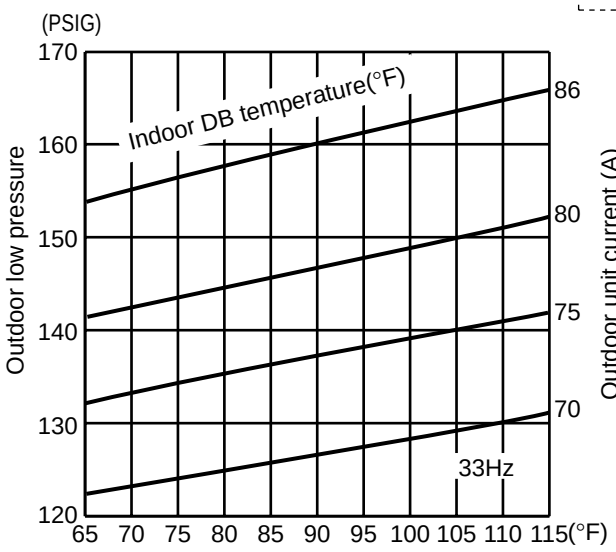


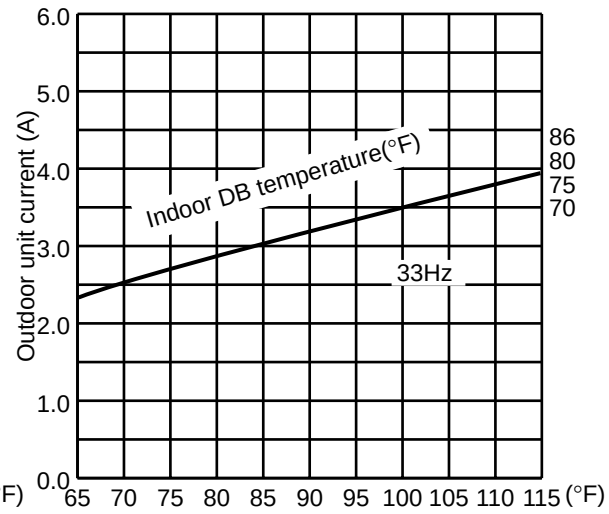
3. 15-class unit in single operation (OUTDOOR UNIT : MXZ-2A20NA MXZ-2A20NA - 1)

(1) COOL operation

①Data is based on the condition of indoor humidity 50%
②Air flow speed : High
③Inverter output frequency : 33Hz

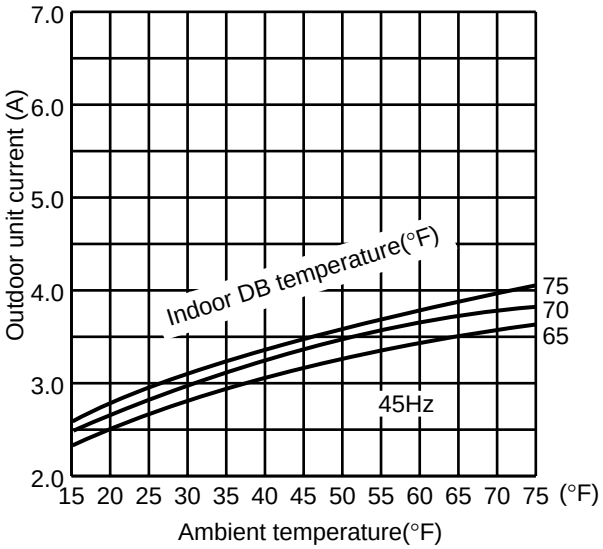
<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 33Hz (COOL) or 45Hz (HEAT).
4.Indoor fan runs at High speed.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

①Data is based on the condition of outdoor humidity 75%
②Set air flow to High speed.
③Inverter output frequency is 45Hz.

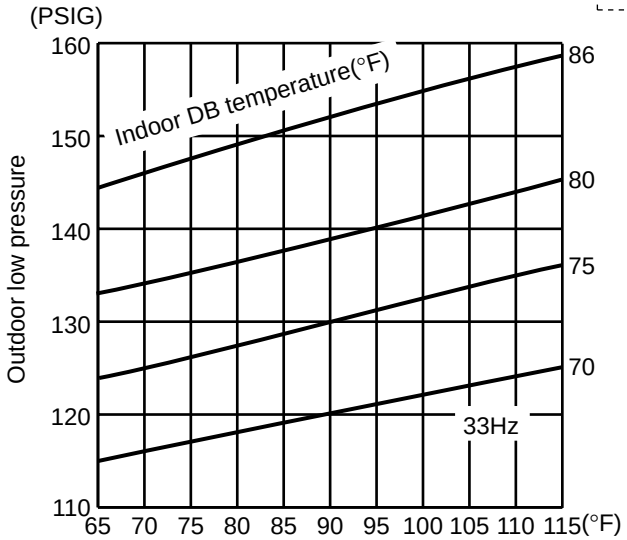


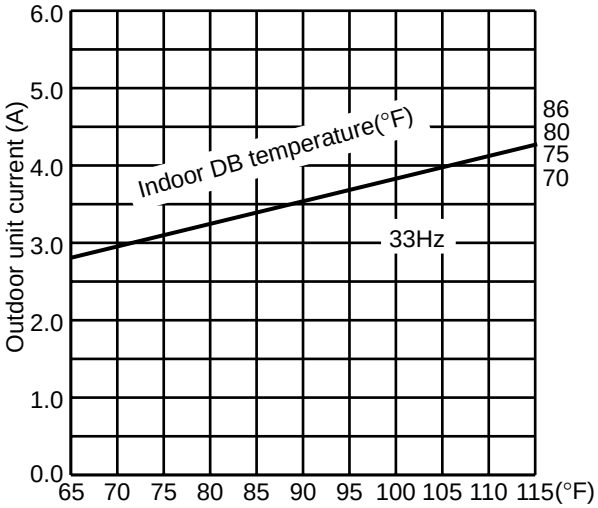
4. 09-class unit in single operation (OUTDOOR UNIT : MXZ-3A30NA MXZ-3A30NA - 1)

(1) COOL operation

①Data is based on the condition of indoor humidity 50%
②Air flow speed : High
③Inverter output frequency : 33Hz

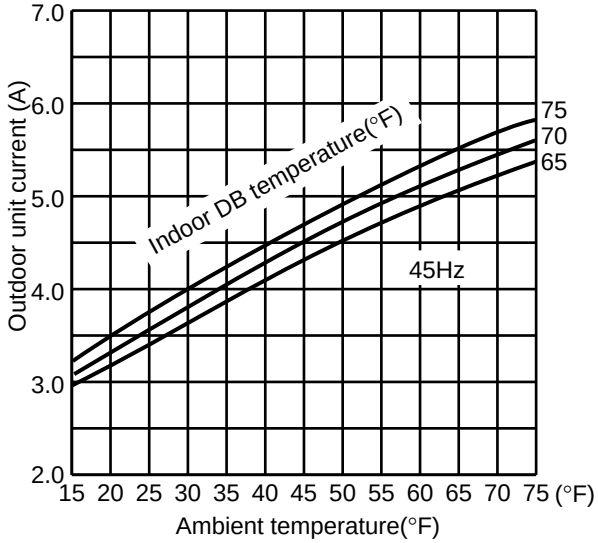
<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 33Hz (COOL) or 45Hz (HEAT).
4.Indoor fan runs at High speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

①Data is based on the condition of outdoor humidity 75%.
②Set air flow to High speed.
③Inverter output frequency is 45Hz.

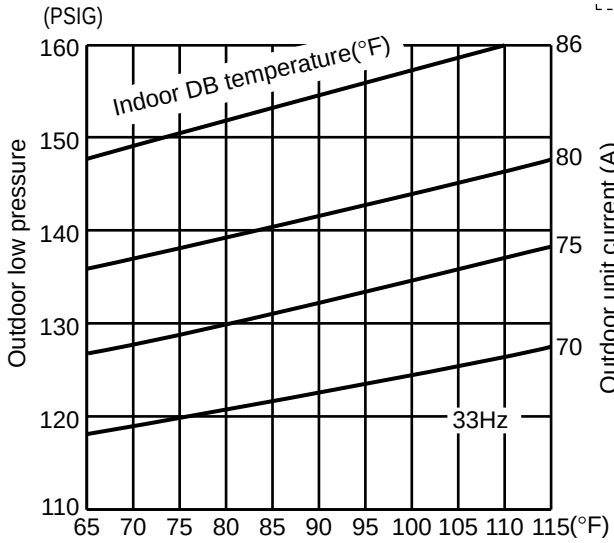


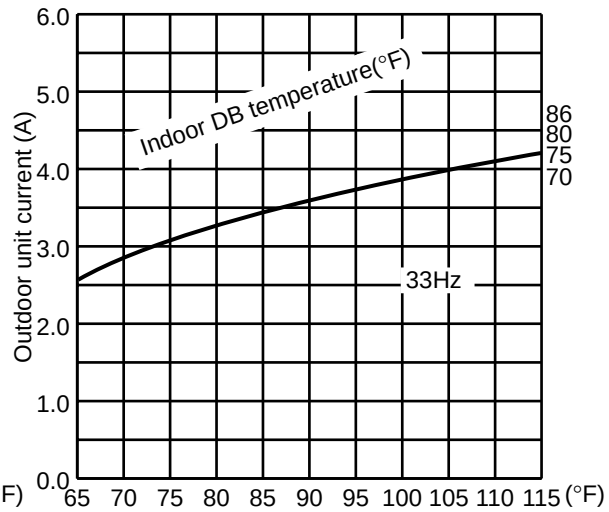
5. 12-class unit in single operation (OUTDOOR UNIT : MXZ-3A30NA MXZ-3A30NA - 1)

(1) COOL operation

①Data is based on the condition of indoor humidity 50%
②Air flow speed : High
③Inverter output frequency : 33Hz

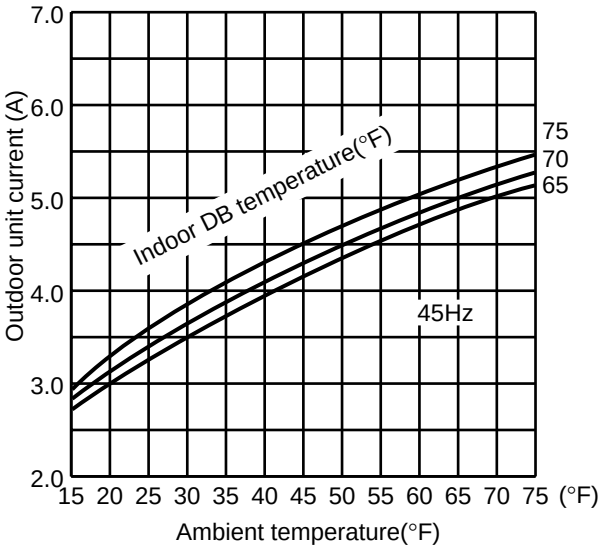
<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 33Hz (COOL) or 45Hz (HEAT).
4.Indoor fan runs at High speed and continues for 30 minutes.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

①Data is based on the condition of outdoor humidity 75%.
②Set air flow to High speed.
③Inverter output frequency is 45Hz.

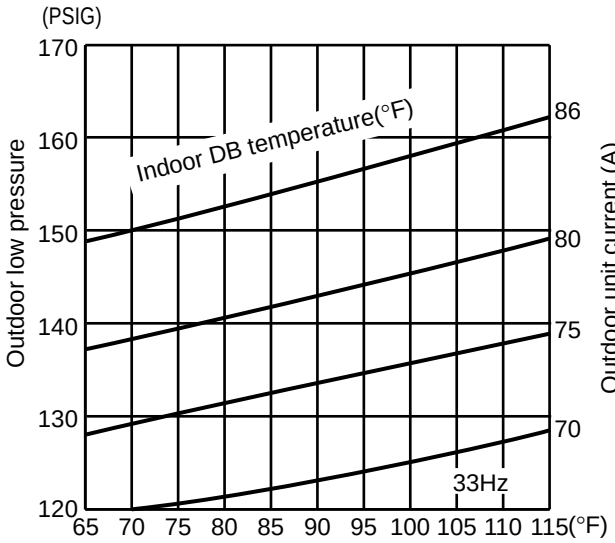


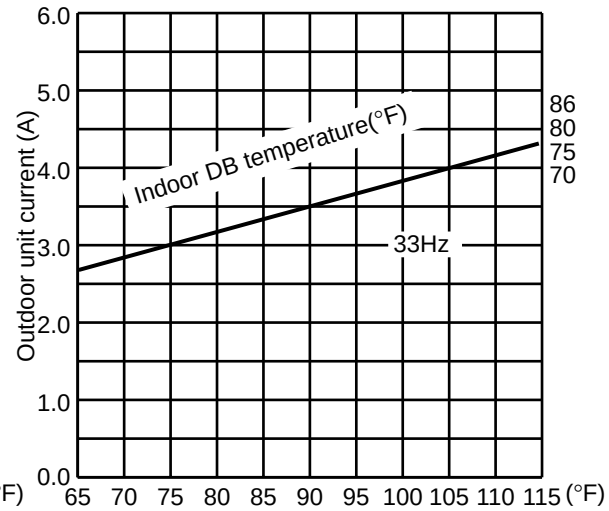
6. 15-class unit in single operation (OUTDOOR UNIT : MXZ-3A30NA MXZ-3A30NA - 1)

(1) COOL operation

①Data is based on the condition of indoor humidity 50%
②Air flow speed : High
③Inverter output frequency : 33Hz

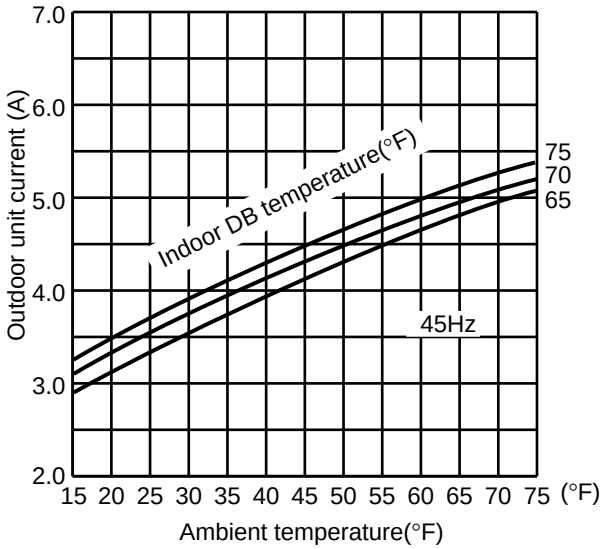
<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 33Hz (COOL) or 45Hz (HEAT).
4.Indoor fan runs at High speed.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.





(2) HEAT operation

①Data is based on the condition of outdoor humidity 75%
②Set air flow to High speed.
③Inverter output frequency is 45Hz.



7. 17-class unit in single operation (OUTDOOR UNIT : MXZ-3A30NA MXZ-3A30NA - 1)

(1) COOL operation

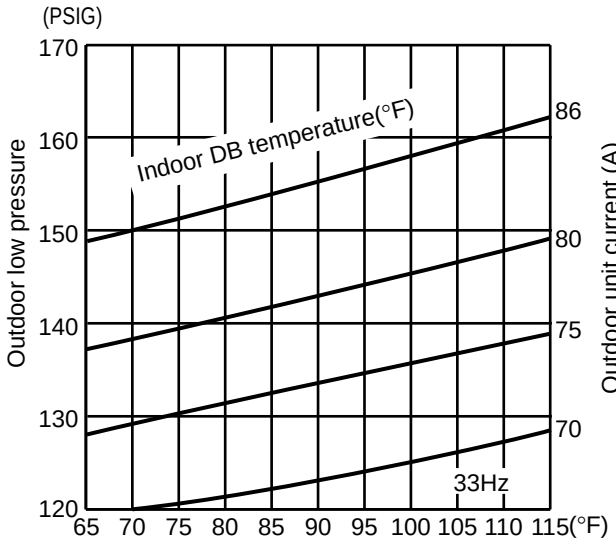
①Data is based on the condition of indoor humidity 50%

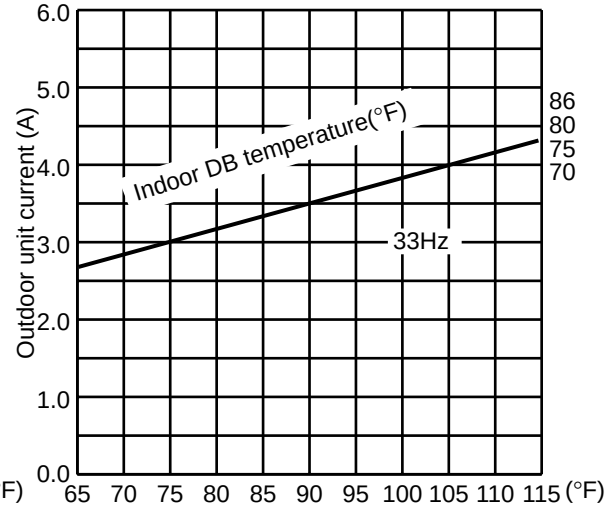
②Air flow speed : High

③Inverter output frequency : 33Hz

<How to work fixed-frequency operation>

1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 33Hz (COOL) or 45Hz (HEAT).
4.Indoor fan runs at High speed.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.



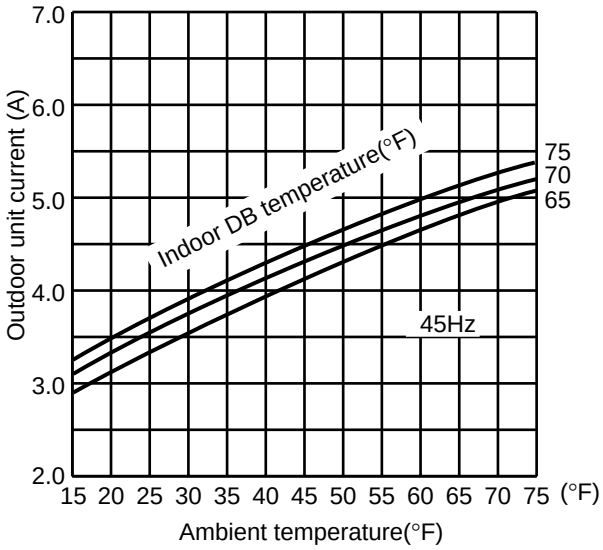


(2) HEAT operation

①Data is based on the condition of outdoor humidity 75%.

②Set air flow to High speed.

③Inverter output frequency is 45Hz.

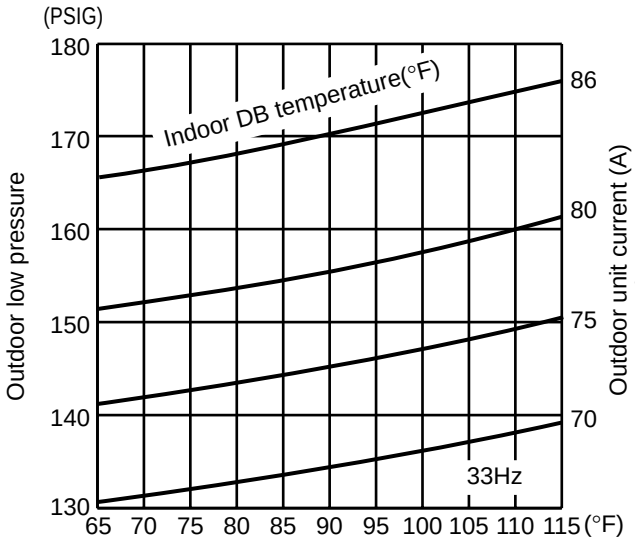


8. 24-class unit in single operation (OUTDOOR UNIT : MXZ-3A30NA MXZ-3A30NA - 1)

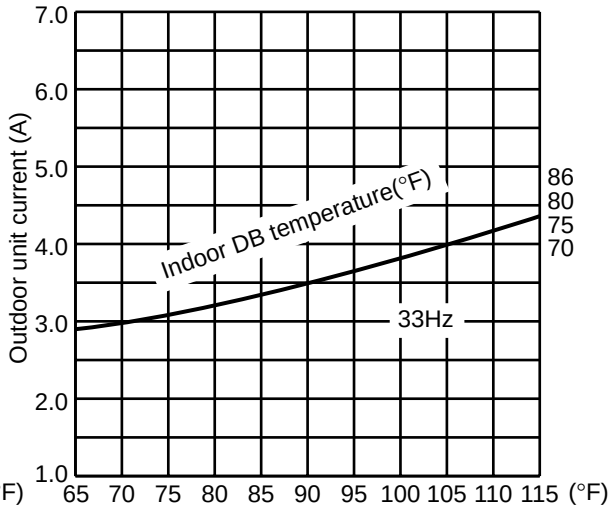
(1) COOL operation

①Data is based on the condition of indoor humidity 50%
②Air flow speed : High
③Inverter output frequency : 33Hz

<How to work fixed-frequency operation>
1.Set emergency switch to COOL or HEAT.The switch is located on indoor unit.
2.Press emergency run ON/OFF button.
3.Compressor starts running at 33Hz (COOL) or 45Hz (HEAT).
4.Indoor fan runs at High speed.
5.To cancel this operation,press emergency run ON/OFF button or any button on remote controller.



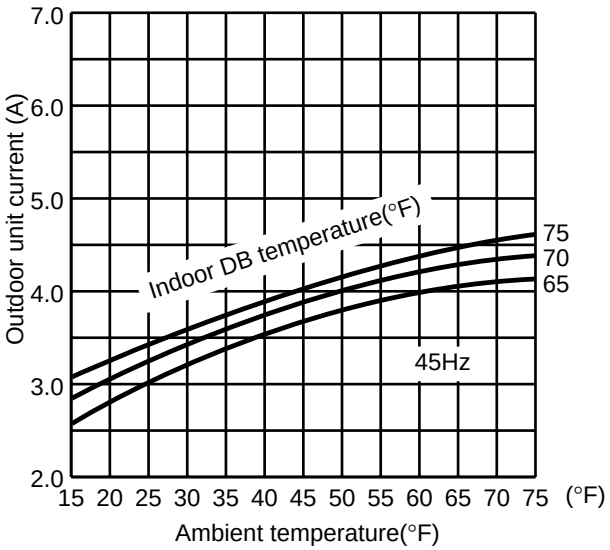
Ambient temperature(°F)



Ambient temperature(°F)

(2) HEAT operation

①Data is based on the condition of outdoor humidity 75%
②Set air flow to High speed.
③Inverter output frequency is 45Hz.



Ambient temperature(°F)

9 ACTUATOR CONTROL

MXZ-2A20NA MXZ-2A20NA - 1 MXZ-3A30NA MXZ-3A30NA - 1

Relation between main sensor and actuator

Sensor	Purpose	Actuator			
		Compressor	LEV	Outdoor fan motor	4-way valve
Discharge temperature thermistor	Protection	○	○		
Indoor pipe temperature thermistor	Defrosting Protection	○	○	○	
Defrost thermistor	Defrosting	○	○	○	○
Gas pipe temperature thermistor (MXZ-2A20NA, MXZ-3A30NA)	Control		○		
Fin temperature thermistor	Protection	○		○	
Ambient temperature thermistor	Control	○	○	○	
Outdoor heat exchanger temperature	Protection	○	○	○	
Capacity code	Control	○	○		

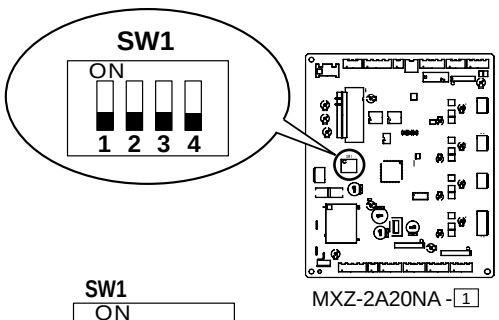
10 SERVICE FUNCTIONS

10-1. Pre-heat control <MXZ-2A20NA - 1 , MXZ-3A30NA - 1 >

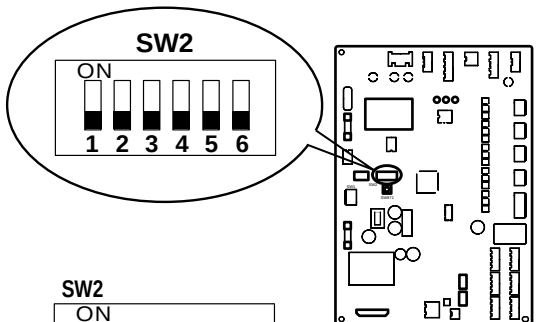
If moisture gets into the refrigerant cycle, or when refrigerant is liquefied and collected in the compressor, it may interfere the start-up of the compressor.
To improve start-up condition, the compressor is energized even while it is not operating.
This is to generate heat at the winding.
The compressor uses about 50 W when pre-heat control is turned ON.
Pre-heat control is ON at initial setting.

[How to deactivate pre-heat control]

① Turn OFF the power supply for the air conditioner before making the setting.
② Set the 4th Dip Switch of SW1 on the outdoor electronic control P.C. board to ON to deactivate pre-heat control function (MXZ-2A20NA - 1).
Set the 4th Dip Switch of SW2 on the outdoor electronic control P.C. board to ON to deactivate pre-heat control function (MXZ-3A30NA - 1).



MXZ-2A20NA - 1



MXZ-3A30NA - 1

③ Turn ON the power supply for the air conditioner.

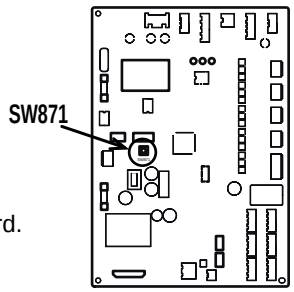
NOTE: Pre-heat control will be turned OFF when the breaker is turned OFF.

10-2. Auto line correcting <MXZ-3A30NA - 1 >

Outdoor unit has an auto line correcting function which automatically detects and corrects improper wiring or piping.

Improper wiring or piping can be automatically detected by pressing the piping/wiring correction switch (SW871).
When improper wiring or piping is detected, wiring lines are corrected.
This will be completed in about 10 to 15 minutes.

[How to activate this function]



1. Check that outside temperature is above 0℃.
   (This function does not work when outside temperature is not above 0℃.)
2. Check that the stop valves of the liquid pipe and gas pipe are open.
3. Check that the wiring between indoor and outdoor unit is correct.
   (If the wiring is not correct, this function does not work.)
4. Turn ON the power supply and wait at least 1 minute.
5. Press the piping/wiring correction switch (SW871) on the electronic control P.C. board.
   Do not touch energized parts.

   LED indication during detection:

LED1(Red)	LED2(Yellow)	LED3(Green)
Lighting	Lighting	Blinking

   LED indication after detection:

LED1(Red)	LED2(Yellow)	LED3(Green)	Indication
Lighting	Goes out	Lighting	Completed (Detected successfully)
Blinking	Blinking	Blinking	Cannot be corrected
Other indications			Refer to "SAFETY PRECAUTIONS WHEN LED FLASHES" located behind the service panel.

   ※ Be sure to check for closed valves, cracked pipes or clogged pipes.
6. Press the switch to cancel.

   LED indication after cancel :

LED1(Red)	LED2(Yellow)	LED3(Green)
Lighting	Lighting	Goes out

NOTE : Indoor unit cannot be operated while this function is activated.
When this function is activated while indoor unit is operating, the operation will be stopped.
Operate indoor unit after the auto line correcting is finished.
Pressing the switch during detection cancels this function.

The record of auto line correcting can be confirmed in the following way:

Press the switch for more than 5 seconds.
LED will show the record of auto correcting for about 30 seconds as shown in the table below:

Number of blinks			Wiring line
LED1(Red)	LED2(Yellow)	LED3(Green)	
Once	Once	Lighting	Not corrected
3 times	3 times	Lighting	Corrected

NOTE : Activate this function to confirm the correct wiring after replacing the electronic control P.C. board.
(Previous records are deleted when the electronic control P.C. board is replaced.)
The record cannot be shown if auto line correcting is not canceled (Refer to "How to activate this function").

11 TROUBLESHOOTING

MXZ-2A20NA MXZ-2A20NA - 1 MXZ-3A30NA MXZ-3A30NA - 1

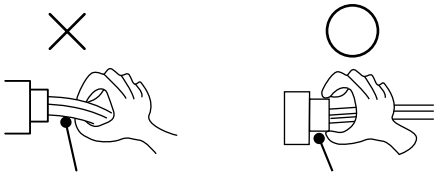
11-1. Cautions on troubleshooting

1. Before troubleshooting, check the following:

1) Check the power supply voltage.
2) Check the indoor/outdoor connecting wire for mis-wiring.

2. Take care of the following during servicing.

1) Before servicing the air conditioner, be sure to turn off the unit first with the remote controller, and then after confirming the horizontal vane is closed, turn off the breaker and/or disconnect the power plug.
2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
3) When removing the electrical parts, be careful to the residual voltage of smoothing capacitor.
4) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
5) When connecting or disconnecting the connectors, hold the housing of the connector. DO NOT pull the lead wires.



3. Troubleshooting procedure

1) First, check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the abnormality indication is flashing on and off before starting service work.
2) If the electronic control P.C. board seems to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
3) When troubleshooting, refer to 11-2, and 11-3. and 11-4.

11-2. Failure mode recall function

This air conditioner can memorize the abnormal condition which has occurred once.
Even though LED indication listed on the troubleshooting check table (11-4.) disappears, the memorized failure details can be recalled.
This mode is very useful when the unit needs to be repaired for the abnormality which doesn't recur.

1. Type of failure mode recall function

There are 2 types in failure mode recall function as shown below.

①Indoor and outdoor unit failure mode recall function
With this function, failure mode of indoor unit and a part of failure mode of outdoor unit can be recalled.

②The details of outdoor unit failure mode recall function
With this function, more detailed failure mode of outdoor unit can be recalled.

Refer to the service manual of indoor unit for how to recall the failure mode and the details of indoor unit failure mode.
The outdoor unit failure mode is indicated by the operation indicator lamp on the indoor unit and the LED of outdoor unit.
See "11-2.2. Failure mode table".

2. Outdoor unit failure mode table

The left lamp of OPERATION INDICATOR lamp (Indoor unit)	Abnormal point (Failure mode / protection)	LED indication (Outdoor P.C. board) LED 1	LED 2	Condition	Correspondence	Indoor/outdoor unit failure mode recall function
OFF	None (Normal)	—	—	———	———	———
2-time flash	Outdoor power system	Lighting	Lighting	When overcurrent protection stop is continuously performed three times within 1 minute after the compressor gets started, or when converter protection stop or bus-bar voltage protection stop is continuously performed three times within 3 minutes after start-up.	• Check the connection of the compressor connecting wire. • Refer to 11-6.Ⓔ "How to check inverter / compressor". • Check the stop valve.	○
3-time flash	Discharge temperature thermistor	Lighting	Once	When thermistor shorts or opens during compressor running.	• Refer to 11-6.Ⓕ "Check of outdoor thermistors".	○
	Defrost thermistor	Lighting	Once			
	Ambient temperature thermistor	Lighting	Twice			
	Fin temperature thermistor	Lighting	3 times			
	P.C. board temperature thermistor	Lighting	4 times		• Replace the outdoor electronic control P.C. board.	
	Outdoor heat exchanger temperature thermistor	Lighting	9 times		• Refer to 11-6.Ⓕ "Check of outdoor thermistors".	
	Gas pipe temperature thermistor A	Lighting	10 times	When a short or open circuit is detected in the thermistor during cooling. (A,B: MXZ-2A20NA, MXZ-3A30NA) (C : MXZ-3A30NA)		
	Gas pipe temperature thermistor B	Lighting	11 times			
	Gas pipe temperature thermistor C	Lighting	12 times			
4-time flash	Overcurrent	Once	Goes out	When 28A current flow into intelligent power module.	• Reconnect compressor connector. • Refer to 11-6.Ⓔ "How to check inverter/ compressor". • Check the stop valve.	———
5-time flash	Discharge temperature	Lighting	Lighting	When discharge temperature exceeds 240.8˚F during operation. Compressor can restart if discharge temperature thermistor reads 212˚F or less 3 minutes later.	•Check refrigerant circuit and refrigerant amount. • Refer to 11-6.Ⓓ "Check of LEV".	———
6-time flash	High pressure	Lighting	Lighting	When high-pressure is detected with the high-pressure switch (HPS) during operation. (MXZ-3A30)	•Check refrigerant circuit and refrigerant amount. • Check the stop valve.	———
				When the outdoor heat exchanger temperature exceeds 158˚F during cooling or the indoor gas pipe temperature exceeds 158˚F during heating.		
7-time flash	Fin temperature	3 times	Goes out	When the fin temperature exceeds 188.6˚F during operation.	• Check around outdoor unit. • Check outdoor unit air passage. • Refer to 11-6.Ⓖ "Check of outdoor fan motor".	———
	P.C. board temperature	4 times	Goes out	When the P.C. board temperature exceeds 158˚F during operation.		
8-time flash	Outdoor fan motor	Lighting	Lighting	When failure occurs continuously three times within 30 seconds after the fan gets started.	• Refer to 11-6.Ⓖ "Check of outdoor fan motor".	———
9-time flash	Nonvolatile memory data	Lighting	5 times	When nonvolatile memory data cannot be read properly.	• Replace the outdoor electronic control P.C. board.	○
10-time flash	Discharge temperature	Lighting	Lighting	When the frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 102.2˚F for more than 20 minutes.	•Check refrigerant circuit and refrigerant amount. • Refer to 11-6.Ⓓ "Check of LEV".	———

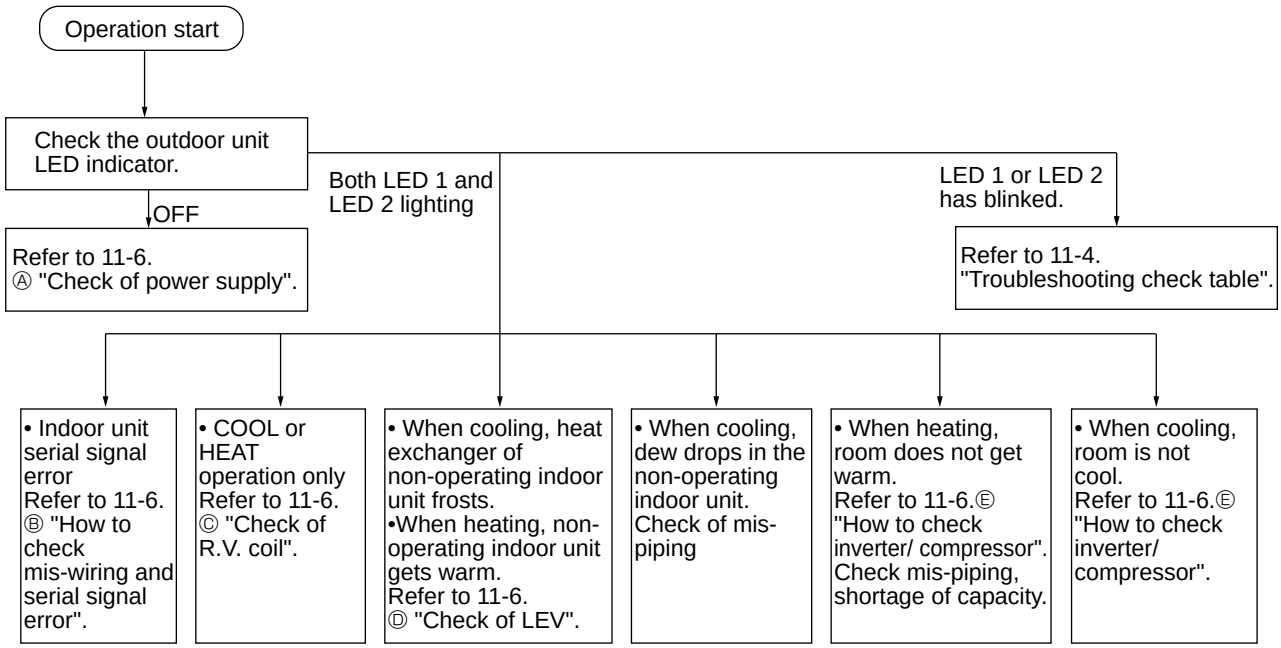
NOTE : Blinking patterns of this mode differ from the ones of Troubleshooting check table (11-4.).

The left lamp of OPERATION INDICATOR lamp(Indoor unit)	Abnormal point (Failure mode / protection)	LED indication (Outdoor P.C. board) LED 1	LED 2	Condition	Correspondence	Indoor/outdoor unit failure mode recall function
11-time flash	Communication error between P.C. boards	Lighting	6 times	Communication error occurs between the electronic control P.C. board and power board for more than 10 seconds.	• Check the connecting wire between outdoor electronic control P.C. board and power board.	——
				When the communication between boards protection stop is continuously performed twice.		○
	Current sensor	Lighting	7 times	When a short or open circuit is detected in the current sensor during compressor operating.	• Replace the power board.	——
				Current sensor protection stop is continuously performed twice.		○
	Zero cross detecting circuit	5 times	Goes out	When zero cross signal cannot be detected while the compressor is operating.	• Check the connecting wire among electronic control P.C. board, noise filter P.C. board and power board.	——
				The protection stop of the zero cross detecting circuit is continuously performed 10 times.		○
	Converter	5 times	Goes out	When a failure is detected in the operation of the converter during operation.	• Replace the power board.	——
	Bus-bar voltage (1)	5 times	Goes out	When the bus-bar voltage exceeds 400V or falls to 200V or below during compressor operating.		
	Bus-bar voltage (2) ※Even if this protection stop is performed continuously three times, it does not mean the abnormality in outdoor power system.	6 times	Goes out	When the bus-bar voltage exceeds 400V or falls to 50V or below during compressor operating.		
15-time flash	LEV for drain	Lighting	Lighting	When the indoor unit detects any abnormal in the LEV for drain.	• Refer to 11-6.Ⓓ "Check of LEV". • Check the drain pump of the indoor unit.	——

NOTE : Blinking patterns of this mode differ from the ones of Troubleshooting check table (11-4.).

11-3. Instruction of troubleshooting

• Check the indoor unit with referring to the indoor unit service manual, and confirm that there is any problem in the indoor unit.
Then, check the outdoor unit with referring to this page.

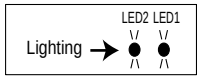


11-4. Troubleshooting check table

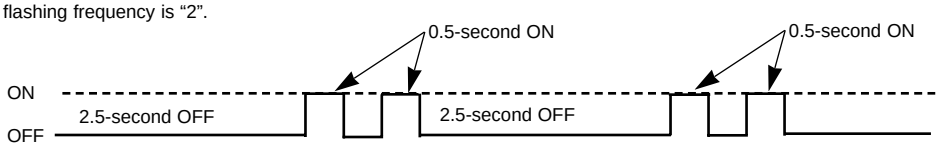
No.	Symptom	Indication		Abnormal point / Condition	Condition	Correspondence
		LED1(Red)	LED2(Yellow)			
1	Outdoor unit does not operate.	Lighting	Once	LEV for drain	When the indoor unit detects any abnormality in the LEV for drain.	• Refer to 11-6.Ⓓ "Check of LEV". • Check the drain pump of the indoor unit.
2		Lighting	Twice	Outdoor power system	When over current protection stop is continuously performed three times within 1 minute after the compressor gets started, or when converter protection stop or bus-bar voltage protection stop is continuously performed three times within 3 minutes after start-up.	• Check the connection of the compressor connecting wire. • Refer to 11-6.Ⓔ "How to check inverter/compressor". • Check the stop valve.
3		Lighting	3 times	Discharge temperature thermistor	When a short circuit is detected in the thermistor during operation, or when an open circuit is detected in the thermistor after 10 minutes of compressor start-up.	• Refer to 11-6.Ⓕ "Check of outdoor thermistors".
4		Lighting	4 times	Fin temperature thermistor	When a short or open circuit is detected in the thermistor during operation.	• Refer to 11-6.Ⓕ "Check of outdoor thermistors".
				P.C board temperature thermistor		• Replace the outdoor electronic control P.C. board.
5		Lighting	5 times	Ambient temperature thermistor	When a short or open circuit is detected in the thermistor during operation.	• Refer to 11-6.Ⓕ "Check of outdoor thermistors".
				Outdoor heat exchanger temperature thermistor	When a short circuit is detected in the thermistor during operation, or when an open circuit is detected in the thermistor after 5 minutes (in cooling) and 10 minutes (in heating) of compressor start-up.	
				Defrost thermistor	When a short circuit is detected in the thermistor during operation, or when an open circuit is detected in the thermistor after 5 minutes of compressor start-up.	
6		Lighting	7 times	Nonvolatile memory data	When the nonvolatile memory data cannot be read properly.	• Replace the outdoor electronic control P.C. board.
7		Lighting	8 times	Current sensor	Current sensor protection stop is continuously performed twice.	• Replace the power board.
8		Lighting	10 times	Gas pipe temperature thermistor A	When a short or open circuit is detected in the thermistor during cooling. (A,B : MXZ-2A20NA, MXZ-3A30NA) (C : MXZ-3A30NA)	• Refer to 11-6.Ⓕ "Check of outdoor thermistors".
				Gas pipe temperature thermistor B		
				Gas pipe temperature thermistor C		
9		Lighting	11 times	Communication error between P.C. boards	When the communication protection stop between boards is continuously performed twice.	• Check the connecting wire between outdoor electronic control P.C. board and power board.
10		Lighting	12 times	Zero cross detecting circuit	The protection stop of the zero cross detecting circuit is continuously performed 10 times.	• Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.
11	'Outdoor unit stops and restarts 3 minutes later' is repeated.	Twice	Goes out	IPM protection	When overcurrent is detected after 30 minutes of compressor start-up.	• Reconnect compressor connector. • Refer to 11-6.Ⓔ "How to check inverter/compressor". • Check the stop valve. • Check the power module (PAM module).
				Lock protection	When overcurrent is detected within 30 minutes of compressor start-up	
12		3 times	Goes out	Discharge temperature protection	When discharge temperature exceeds 240.8˚F during operation. Compressor can restart if discharge temperature thermistor reads 212˚F or less 3 minutes later.	• Check the amount of gas and refrigerant circuit. • Refer to 11-6.Ⓓ "Check of LEV".
13		4 times	Goes out	Fin temperature protection	When the fin temperature exceeds 188.6˚F during operation.	•Check refrigerant circuit and refrigerant amount. •Refer to 11-6.Ⓖ "Check of outdoor fan motor".
				P.C. board temperature protection	When the P.C. board temperature exceeds 158˚F during operation.	
14		5 times	Goes out	High-pressure protection	When high-pressure is detected with the high-pressure switch (HPS) during operation.(MXZ-3A30)	• Check around of gas and the refrigerant circuit. • Check of stop valve.
					When the outdoor heat exchanger temperature exceeds 158˚F during cooling or when indoor gas pipe temperature exceeds 158˚F during heating.	
15		8 times	Goes out	Converter protection	When a failure is detected in the operation of the converter during operation.	• Replace the power board.
16		9 times	Goes out	Bus-bar voltage protection (1)	When the bus-bar voltage exceeds 400V or falls to 200V or below during compressor operating.	• Replace the power board.
				Bus-bar voltage protection (2)	When the bus-bar voltage exceeds 400V or falls to 50V or below during compressor operating.	
17		13 times	Goes out	Outdoor fan motor	When failure occurs continuously three times within 30 seconds after the fan gets started.	• Refer to 11-6.Ⓖ "Check of outdoor fan motor".
18		Lighting	8 times	Current sensor protection	When a short or open circuit is detected in the current sensor during compressor operating.	• Replace the power board.
19		Lighting	11 times	Communication between P.C. boards protection	Communication error occurs between the outdoor electronic control P.C. board and power board for more than 10 seconds.	• Check the connecting wire between outdoor electronic control P.C. board and power board.
20		Lighting	12 times	Zero cross detecting circuit protection	When zero cross signal cannot be detected while the compressor is operating.	• Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.

NOTE 1. The location of LED is illustrated at the right figure. Refer to 11-7.1.
2. LED is lighted during normal operation.

Outdoor electronic control P.C. board(Parts side)

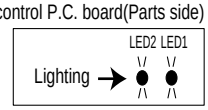


The flashing frequency shows the number of times the LED blinks after every 2.5-second OFF.
(Example) When the flashing frequency is “2”.



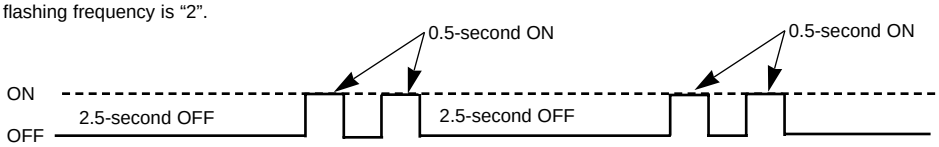
No.	Symptom	Indication		Abnormal point / Condition	Condition	Correspondence
		LED1(Red)	LED2(Yellow)			
21	Outdoor unit operates.	Once	Lighting	Primary current protection	When the input current exceeds 15A.	These symptoms do not mean any abnormality of the product, but check the following points. • Check if indoor filters are clogged. • Check if refrigerant is short. • Check if indoor/outdoor unit air circulation is short cycled.
				Secondary current protection	When the current of the compressor exceeds 15A.	
22		Twice	Lighting	High-pressure protection	When the indoor gas pipe temperature exceeds 113˚F during heating.	
				Defrosting in cooling	When the indoor gas pipe temperature falls 37.4˚F or below during cooling.	
23		3 times	Lighting	Discharge temperature protection	When the frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 122˚F(COOL mode) /104˚F(HEAT mode) for more than 40 minutes.	• Check refrigerant circuit and refrigerant amount. • Refer to 11-6.Ⓓ "Check of LEV". • Refer to 11-6.Ⓕ "Check of outdoor thermistors".
24		4 times	Lighting	Low discharge temperature protection	When the frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 102.2˚F for more than 20 minutes.	• Refer to 11-6.Ⓓ "Check of LEV". • Check refrigerant circuit and refrigerant amount.
25		5 times	Lighting	Cooling high-pressure protection	When the outdoor heat exchanger temperature exceeds 136.4˚F during operation.	This symptom does not mean any abnormality of the product, but check the following points. • Check if indoor filters are clogged. • Check if refrigerant is short. • Check if indoor/outdoor unit air circulation is short cycled.
26	Outdoor unit operates normally.	9 times	Lighting	Inverter check mode	When the unit is operated with emergency operation switch.	–
27		Lighting	Lighting	Normal	–	–

Outdoor electronic control P.C. board(Parts side)



NOTE 1. The location of LED is illustrated at the right figure. Refer to 11-7.1.
2. LED is lighted during normal operation.

The flashing frequency shows the number of times the LED blinks after every 2.5-second OFF.
(Example) When the flashing frequency is “2”.



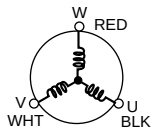
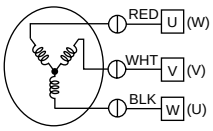
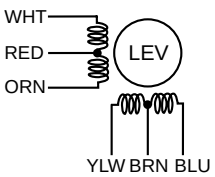
11-5. Trouble criterion of main parts

MXZ-2A20NA MXZ-2A20NA - 1 MXZ-3A30NA MXZ-3A30NA - 1

<table>
<tr><th>Part name</th><th>Check method and criterion</th></tr>
<tr><td>Defrost thermistor (RT61)
Ambient temperature thermistor (RT65)
Outdoor heat exchanger temperature thermistor (RT68)</td><td rowspan="2">Measure the resistance with a tester.

Refer to 11-7. “Test point diagram and voltage”,1. “Outdoor electronic control P.C. board”, the chart of thermistor.</td></tr>
<tr><td>Gas pipe temperature thermistor (RT6A~C)
MXZ-2A20NA
MXZ-3A30NA</td></tr>
<tr><td>Discharge temperature thermistor (RT62)

Fin temperature thermistor (RT64)</td><td>Measure the resistance with a tester.
Before measurement, hold the thermistor with your hands to warm it up.

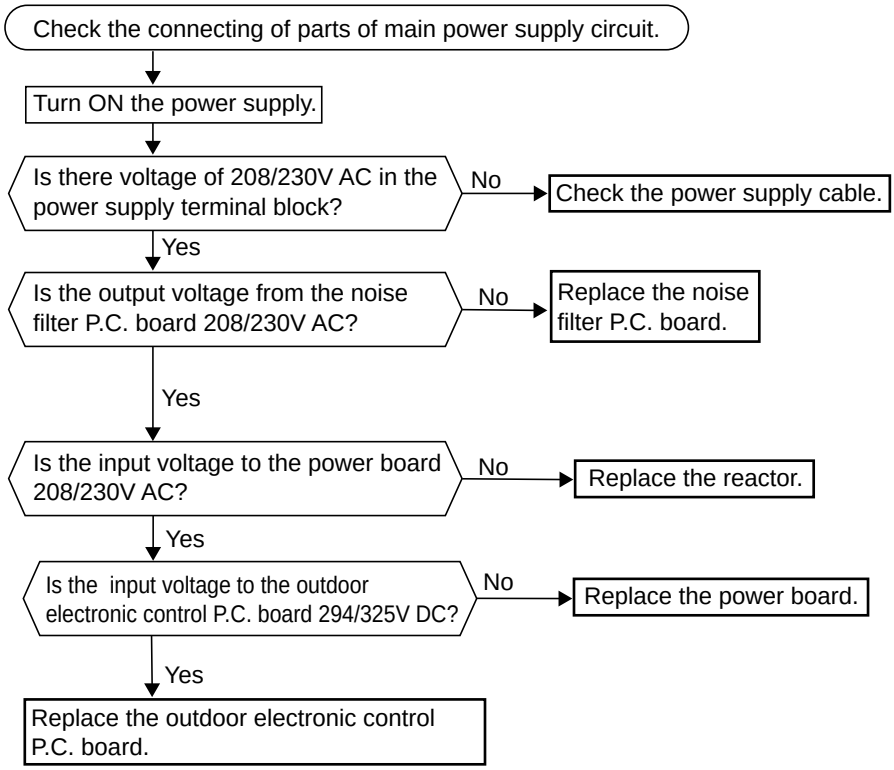
Refer to 11-7. “Test point diagram and voltage”,1. “Outdoor electronic control P.C. board”, the chart of thermistor.</td></tr>
<tr><td>Compressor
 
</td><td>Measure the resistance between terminals using a tester.
(Winding temperature : 14˚F ~ 104˚F)
<table><tr><th colspan="3">Normal (Each phase)</th></tr><tr><td>MXZ-2A20NA</td><td>MXZ-2A20NA
- 1</td><td>MXZ-3A30NA
MXZ-3A30NA - 1</td></tr><tr><td>0.39Ω ~ 0.49Ω</td><td>0.86Ω ~ 1.06Ω</td><td>1.29Ω ~ 1.49Ω</td></tr></table></td></tr>
<tr><td>Outdoor fan motor
 
</td><td>Measure the resistance between lead wires using a tester.
(Part temperature : 14˚F ~ 104˚F)
<table><tr><th>Normal (Each phase)</th></tr><tr><td>13.4Ω ~ 16.4Ω</td></tr></table></td></tr>
<tr><td>R.V. coil</td><td>Measure the resistance using a tester. (Part temperature : 14˚F ~ 104˚F)
<table><tr><th>Normal</th></tr><tr><td>1.2kΩ ~ 1.56kΩ</td></tr></table></td></tr>
<tr><td>Linear expansion valve
 
</td><td>Measure the resistance using a tester.(Part temperature : 14˚F ~ 104˚F)
<table><tr><th>Color of lead wire</th><th>Normal</th></tr><tr><td>WHT - RED</td><td rowspan="4">37.4Ω ~ 53.9Ω</td></tr><tr><td>RED - ORN</td></tr><tr><td>YLW - BRN</td></tr><tr><td>BRN - BLU</td></tr></table></td></tr>
<tr><td>High pressure switch (HPS)
MXZ-3A30NA
MXZ-3A30NA - 1</td><td><table><tr><th colspan="2">Pressure</th><th>Normal</th></tr><tr><td rowspan="2">HPS</td><td>537 ± 22 PSIG</td><td>Close</td></tr><tr><td>696^{+7}_{-15} PSIG</td><td>Open</td></tr></table></td></tr>
</table>

11-6. Troubleshooting flow

MXZ-2A20NA MXZ-2A20NA - 1 MXZ-3A30NA MXZ-3A30NA - 1

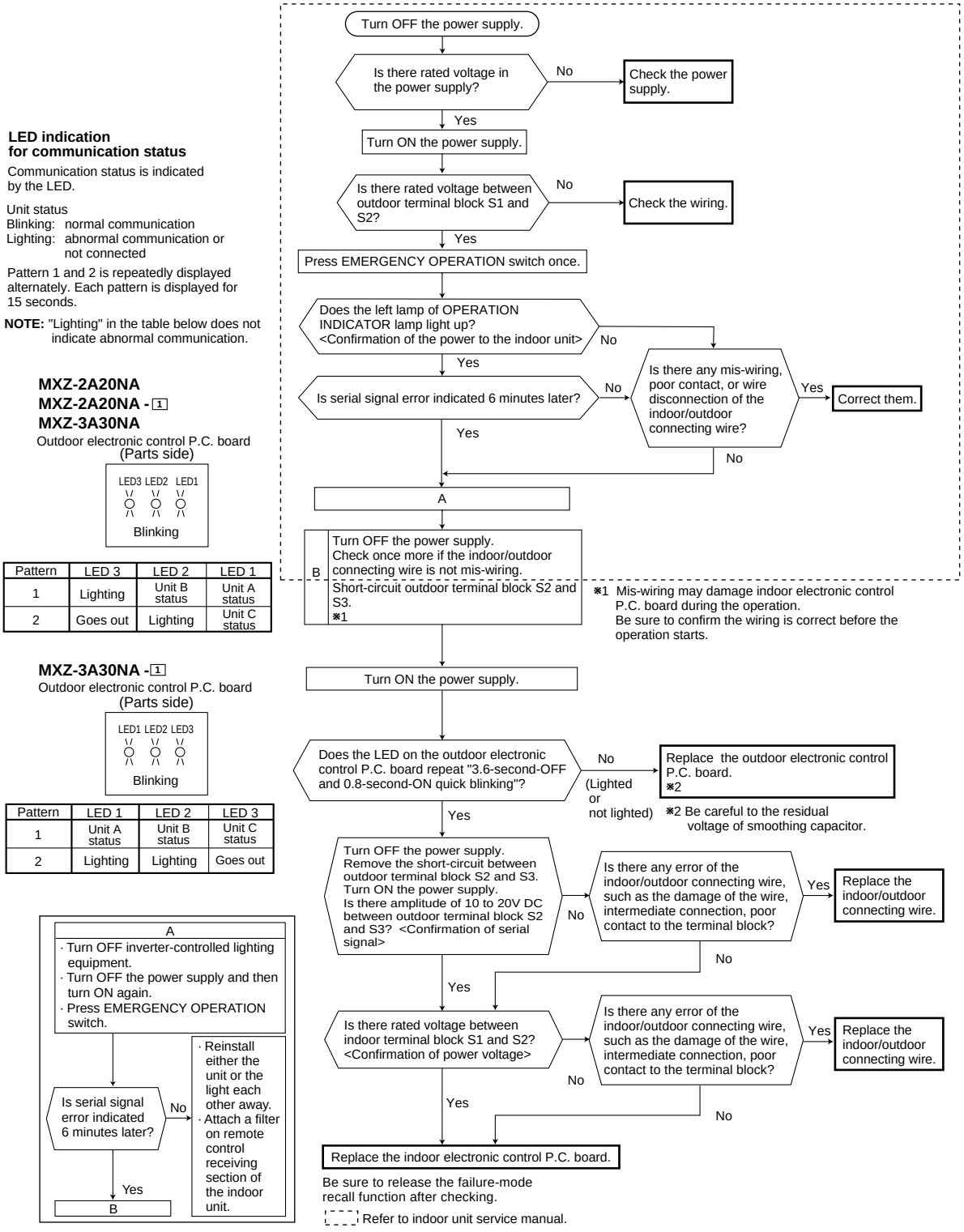
Outdoor unit does not operate. (LED display: display OFF)

Ⓐ Check of power supply



- **When unit cannot operate neither by the remote controller nor by EMERGENCY OPERATION switch. Indoor unit does not operate.**
- **When OPERATION INDICATOR lamp flashes ON and OFF in every 0.5-second. Outdoor unit does not operate.**

Ⓑ How to check mis-wiring and serial signal error



LED indication for communication status

Communication status is indicated by the LED.

Unit status
Blinking: normal communication
Lighting: abnormal communication or not connected

Pattern 1 and 2 is repeatedly displayed alternately. Each pattern is displayed for 15 seconds.

NOTE: "Lighting" in the table below does not indicate abnormal communication.

MXZ-2A20NA
MXZ-2A20NA - 1
MXZ-3A30NA

Outdoor electronic control P.C. board
(Parts side)

Pattern	LED 3	LED 2	LED 1
1	Lighting	Unit B status	Unit A status
2	Goes out	Lighting	Unit C status

MXZ-3A30NA - 1

Outdoor electronic control P.C. board
(Parts side)

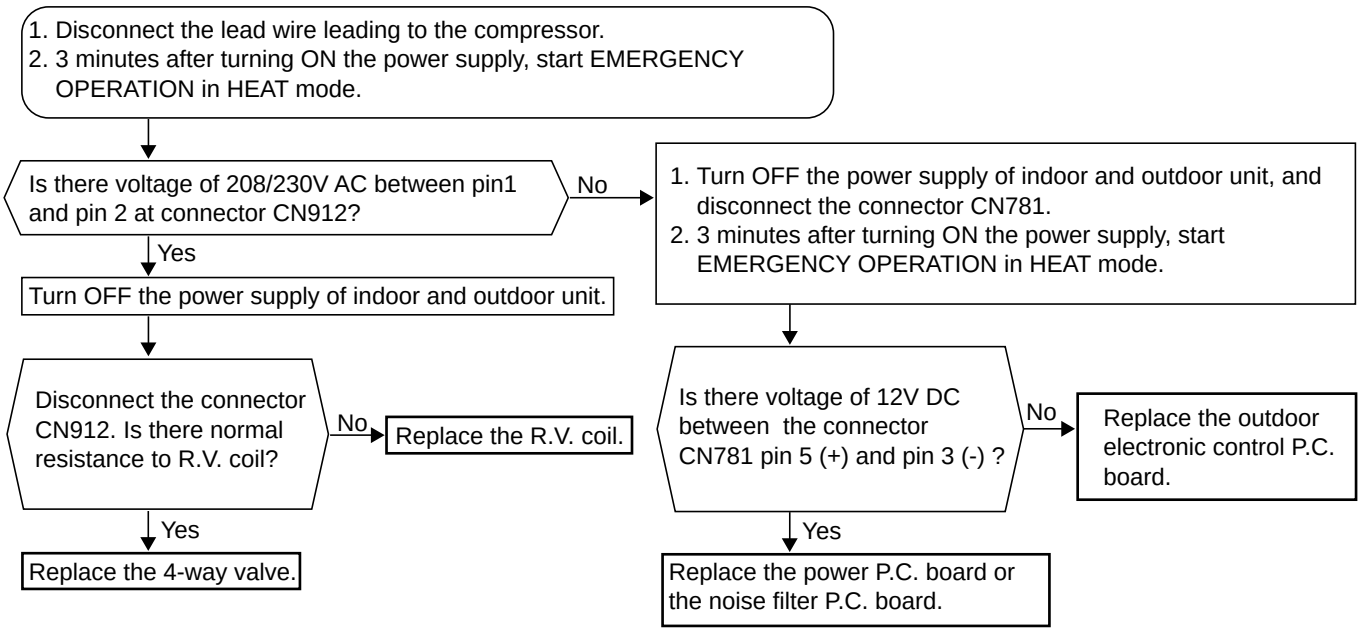
Pattern	LED 1	LED 2	LED 3
1	Unit A status	Unit B status	Unit C status
2	Lighting	Lighting	Goes out

The cooling operation or heating operation does not operate. (LED display: Both LED1 and LED2 lighting)

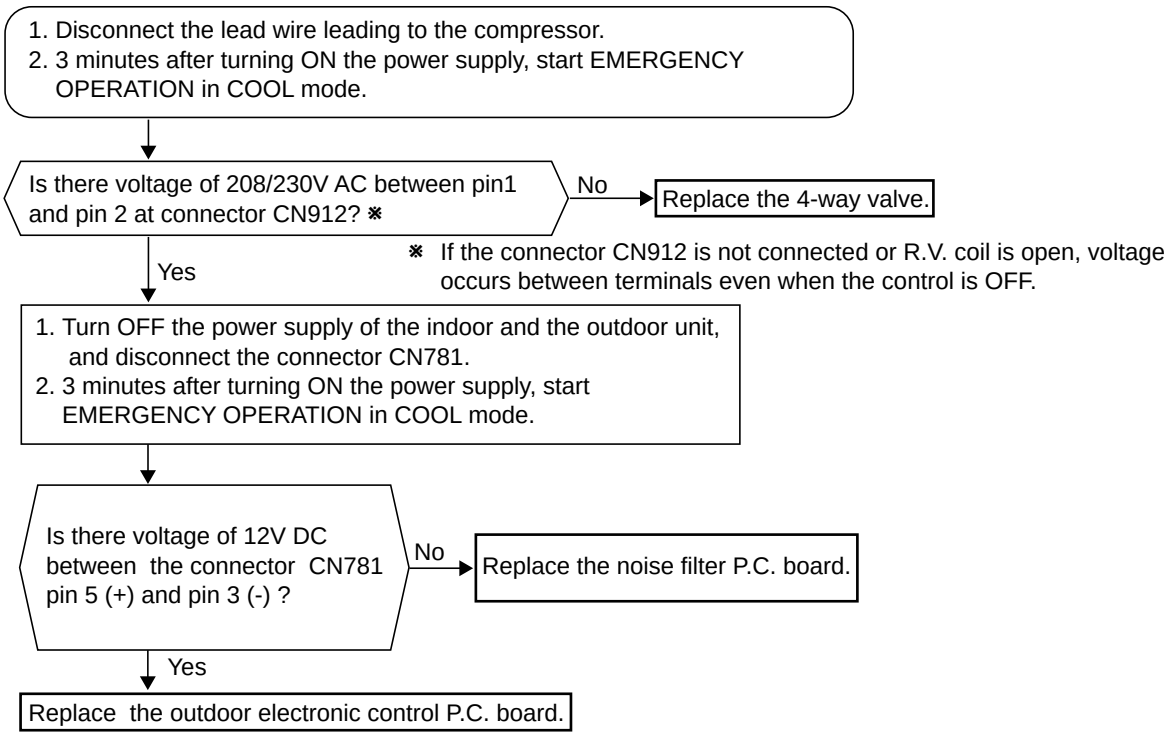
© Check of R.V. coil

CN912	Noise filter P.C. board
CN781	Outdoor electronic control P.C. board

• When heating operation does not work.

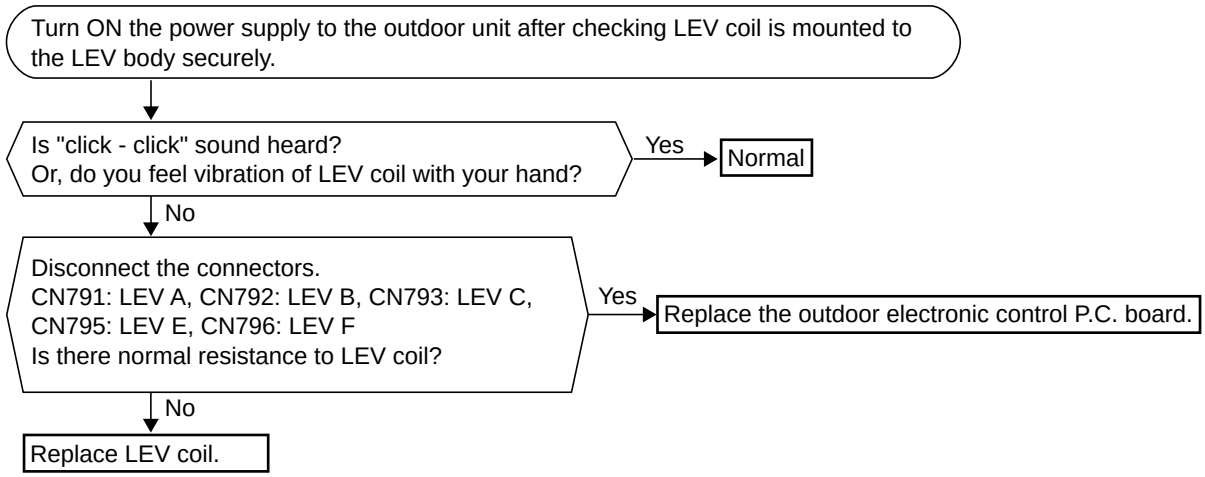


• When cooling operation does not work.



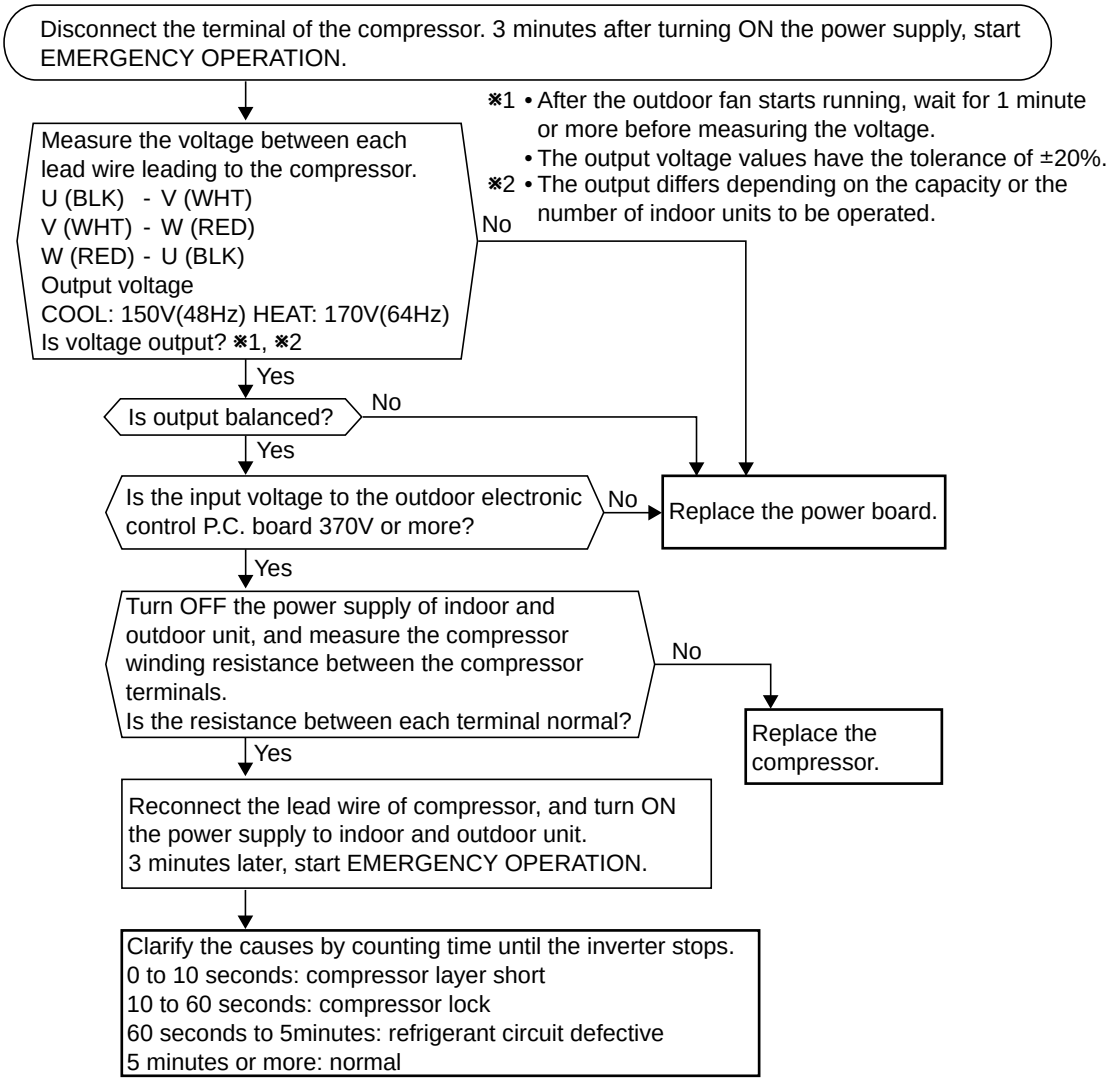
• When cooling, heat exchanger of non-operating indoor unit frosts.
• When heating, non-operating indoor unit get warm.

Ⓓ Check of LEV



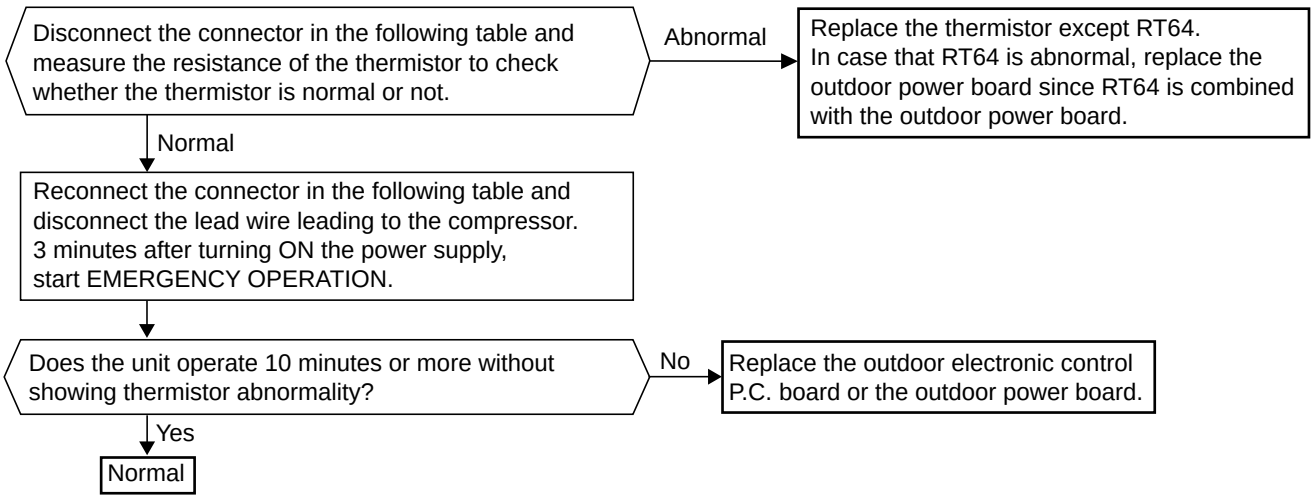
• When heating, room does not get warm.
• When cooling, room does not get cool.

Ⓔ How to check inverter/ compressor



• When thermistor is abnormal.

Ⓕ Check of outdoor thermistors

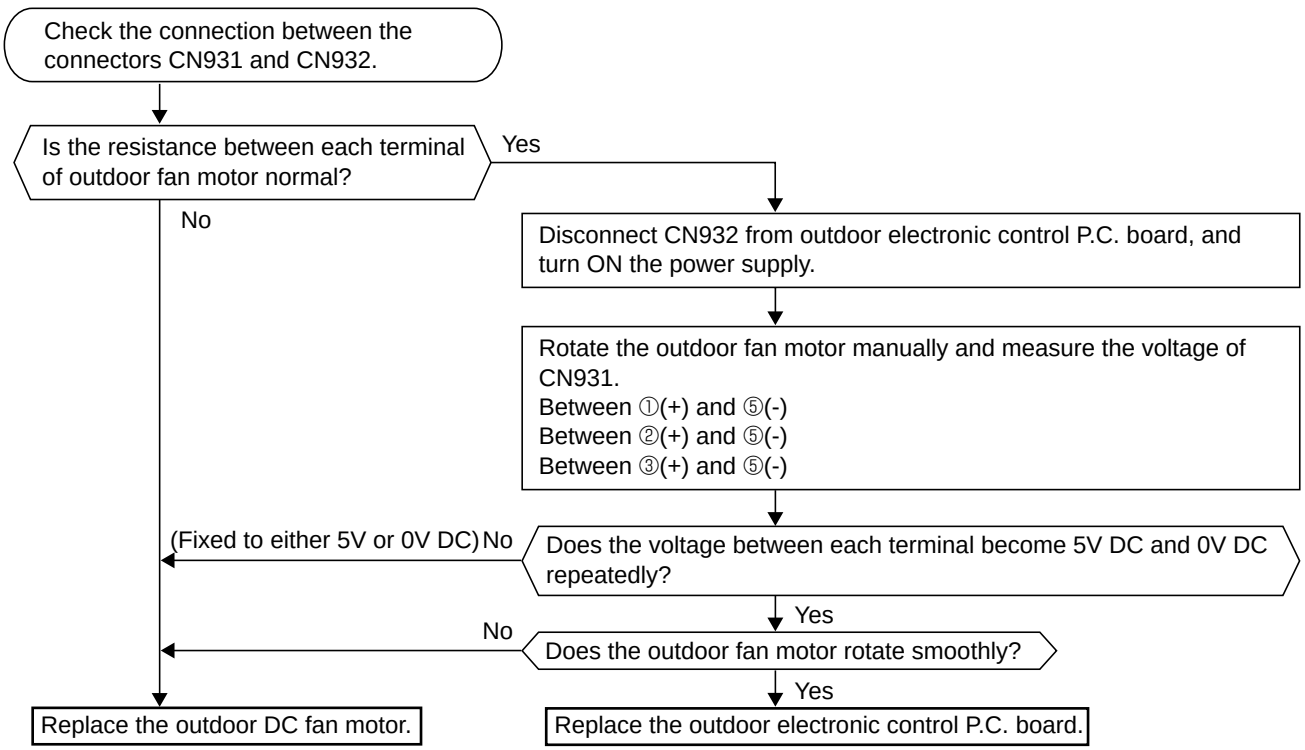


Thermistor	Symbol	Connector, Pin No.	Board
Defrost	RT61	Between CN661 pin1 and pin2	Outdoor electronic control P.C. board
Discharge temperature	RT62	Between CN661 pin3 and pin4	
Outdoor heat exchanger temperature	RT68	Between CN661 pin7 and pin8	
Gas pipe temperature (Unit A) ※	RT6A	Between CN662 pin1 and pin2	
Gas pipe temperature (Unit B) ※	RT6B	Between CN662 pin3 and pin4	
Gas pipe temperature (Unit C) ※	RT6C	Between CN662 pin5 and pin6	
Ambient temperature	RT65	Between CN663 pin1 and pin2	
Fin temperature	RT64	Between CN3 pin1 and pin2	Outdoor power board

※ Except MXZ-2A20NA - 1 and MXZ-3A30NA - 1.

• Fan motor does not operate or stops operating shortly after starting the operation.

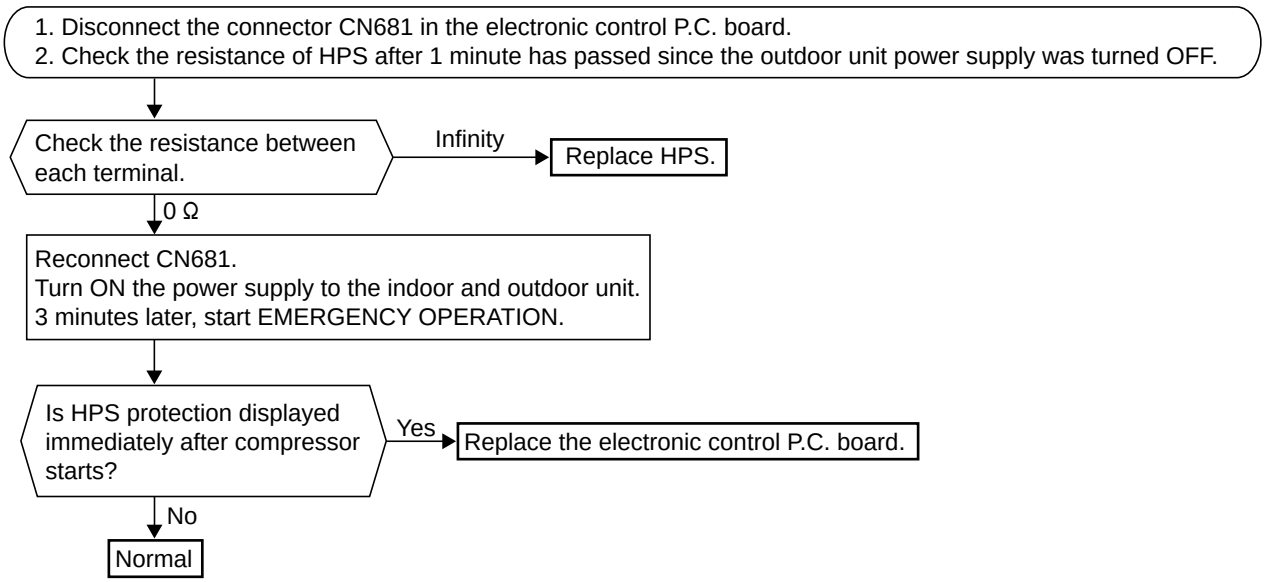
Ⓖ Check of outdoor fan motor



• When the operation frequency does not go up from lowest frequency.

Ⓗ Check of HPS

MXZ-3A30NA MXZ-3A30NA - 1



Ⓘ The other cases

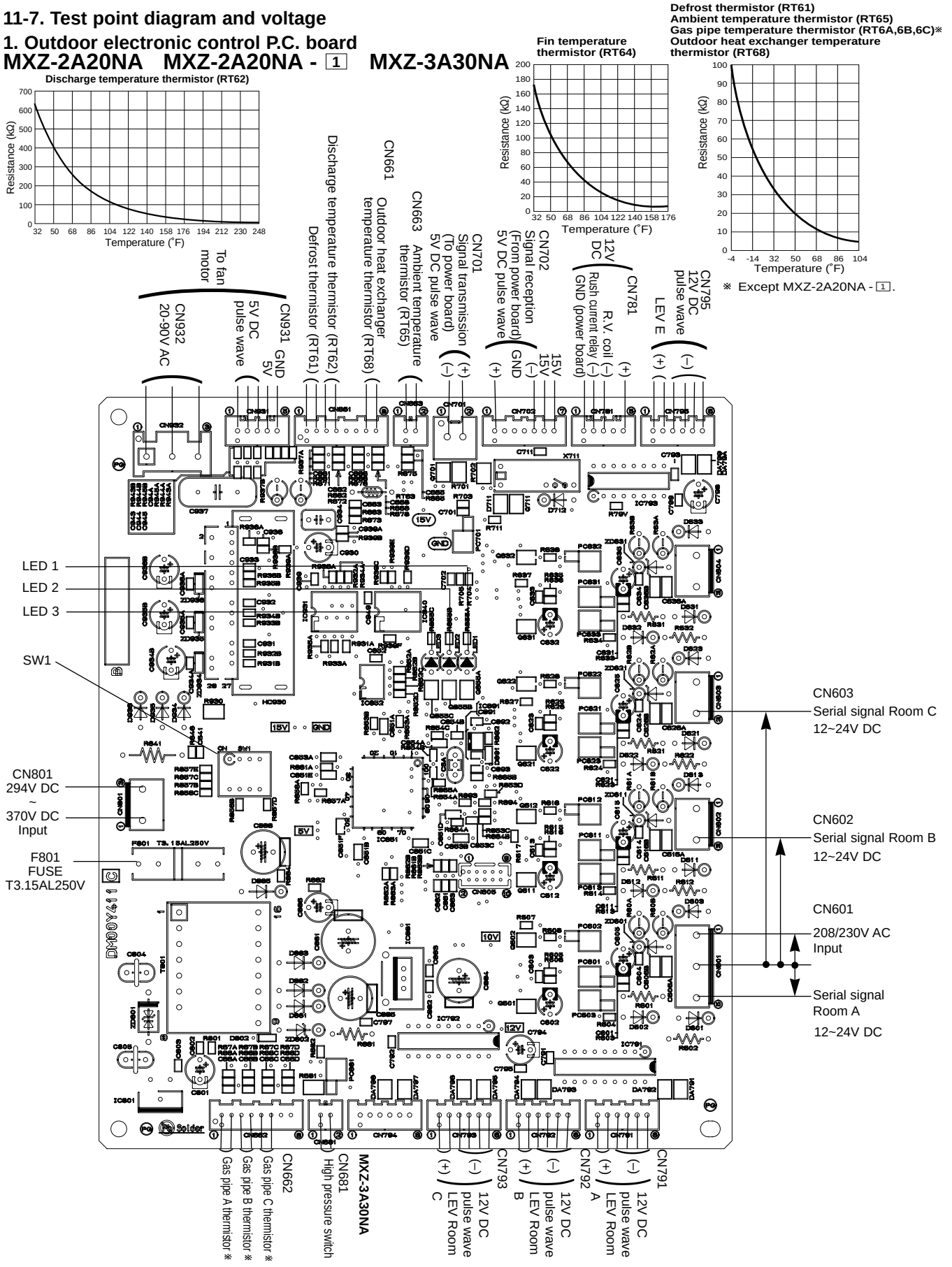
Indoor unit does not operate. (different operating models in multi system)

- When you try to run two indoor units simultaneously, one for cooling and the other for heating, the unit which transmits signal to the outdoor units earlier decides the operation mode.
- When the above situation occurs, set all the indoor units to the same mode, turn OFF the indoor units, and then turn them back ON.
- Though the top of the indoor unit sometimes gets warm, this does not mean malfunction. The reason is that the refrigerant gas continuously flows into the indoor unit even while it is not operating.

11-7. Test point diagram and voltage

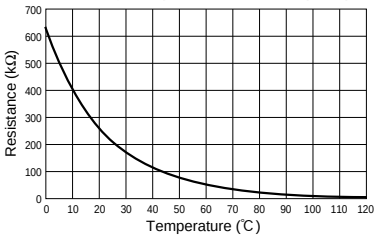
1. Outdoor electronic control P.C. board

MXZ-2A20NA MXZ-2A20NA - 1 MXZ-3A30NA

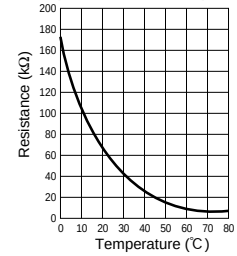


MXZ-3A30NA - 1

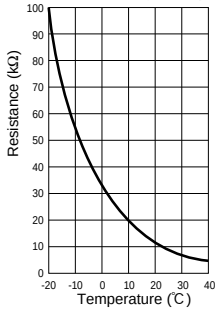
Discharge temperature thermistor (RT62)

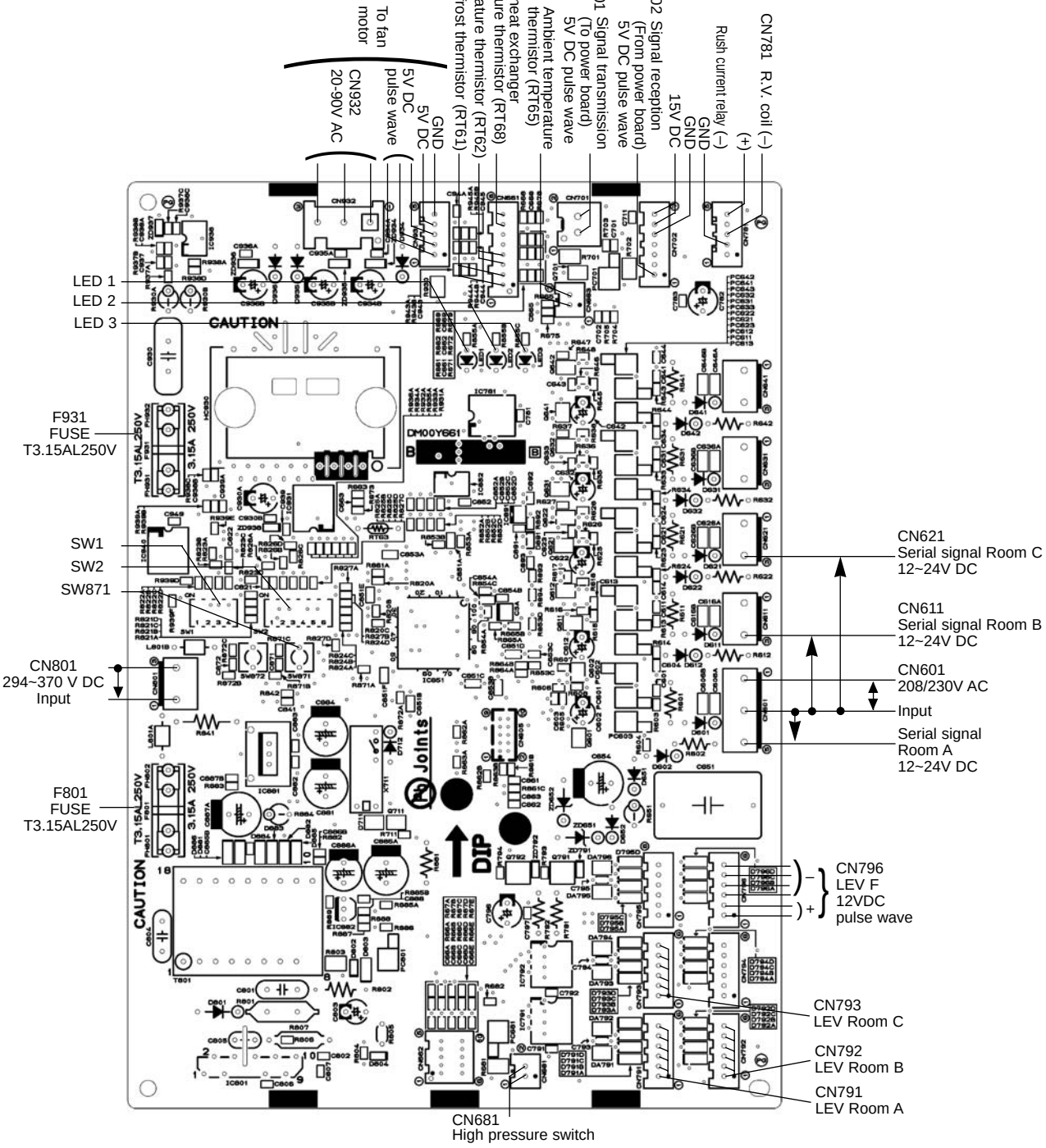


Fin temperature thermistor (RT64)



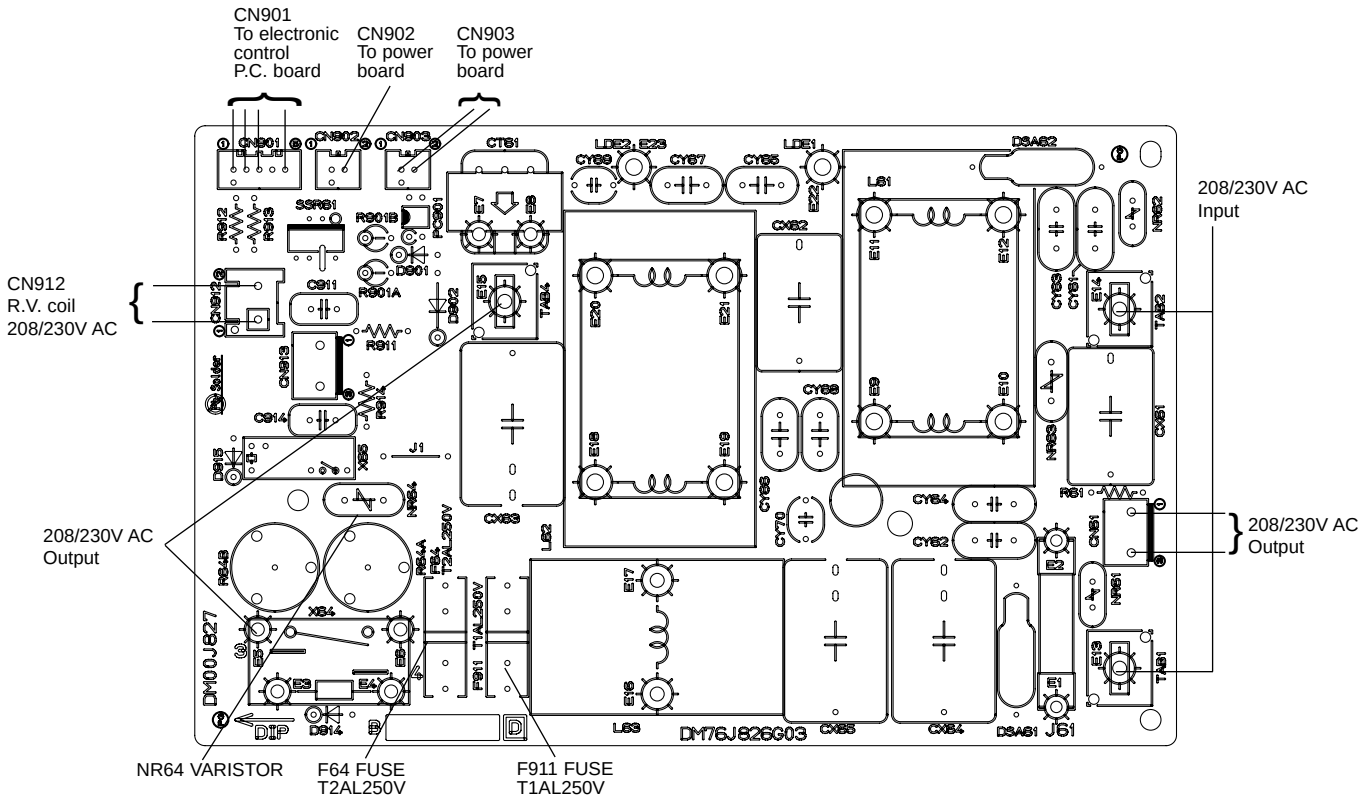
Defrost thermistor (RT61)
Ambient temperature thermistor (RT65)
Outdoor heat exchanger temperature thermistor (RT68)



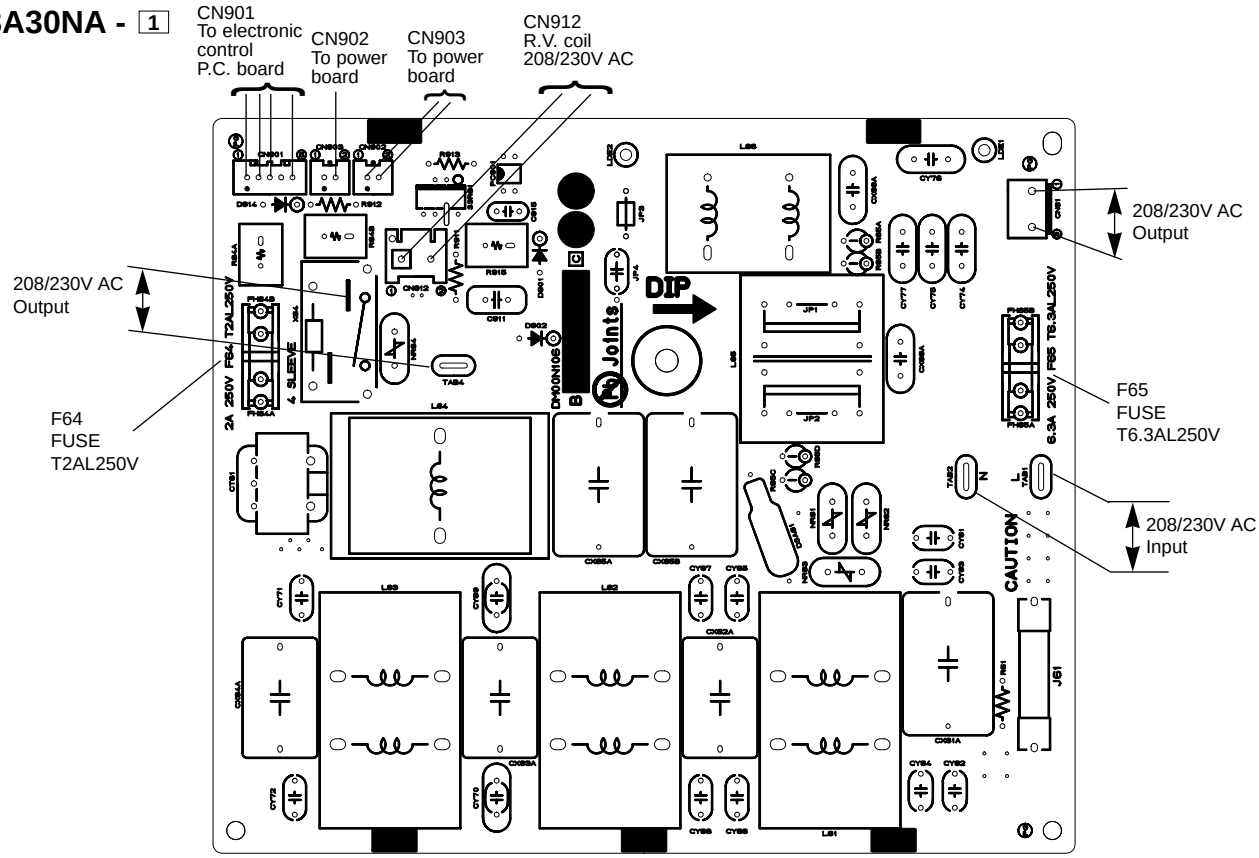


2. Noise filter P.C. board

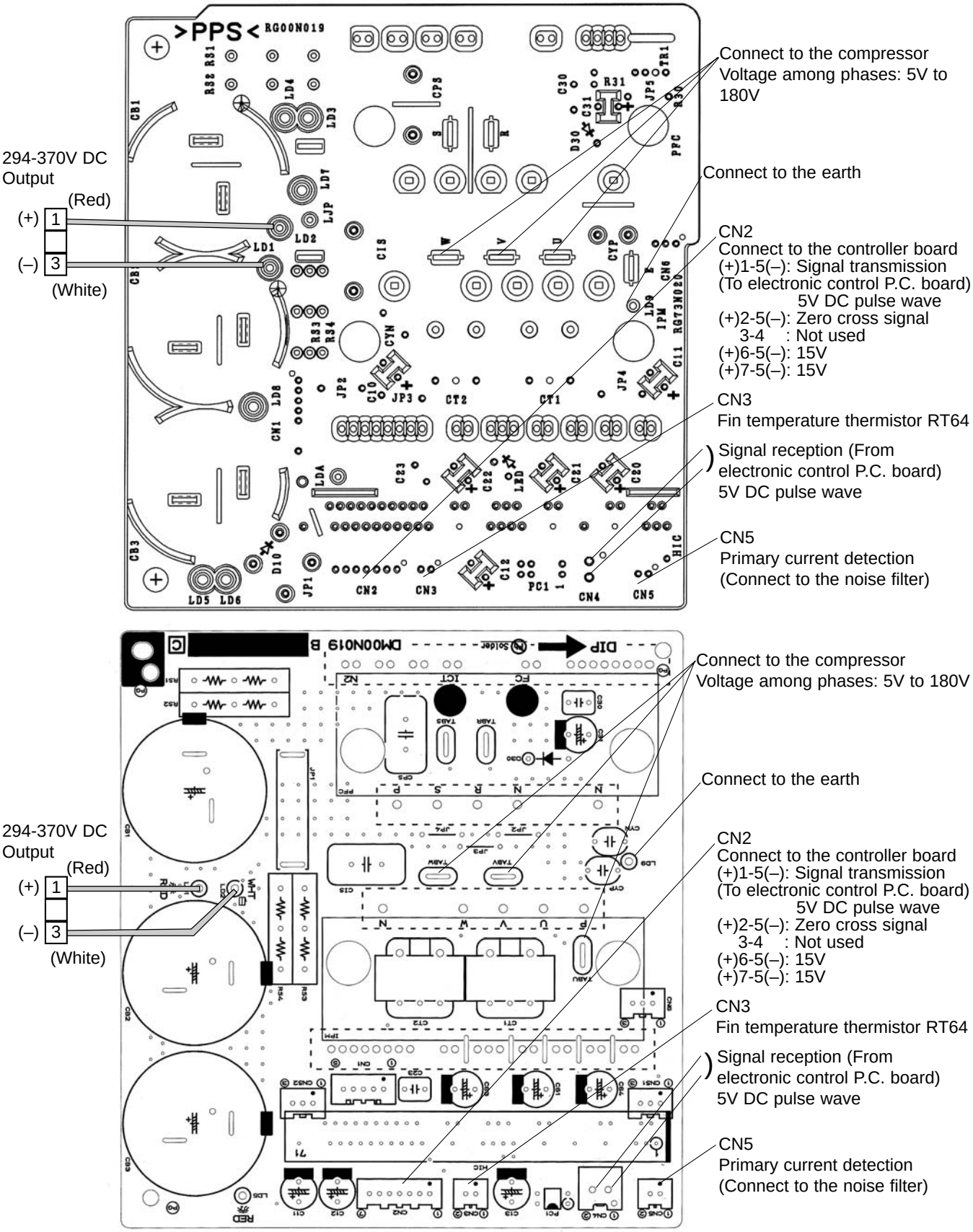
MXZ-2A20NA MXZ-2A20NA - 1 MXZ-3A30NA



MXZ-3A30NA - 1



3. Outdoor Power board MXZ-2A20NA MXZ-2A20NA - 1 MXZ-3A30NA MXZ-3A30NA - 1

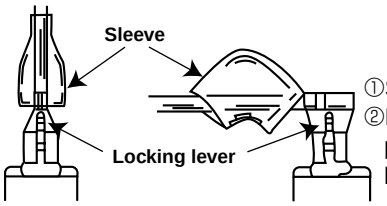


12 DISASSEMBLY INSTRUCTIONS

<"Terminal with locking mechanism" Detaching points>

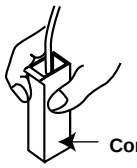
The terminal which has the locking mechanism can be detached as shown below.
There are two types (Refer to (1) and (2)) of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.



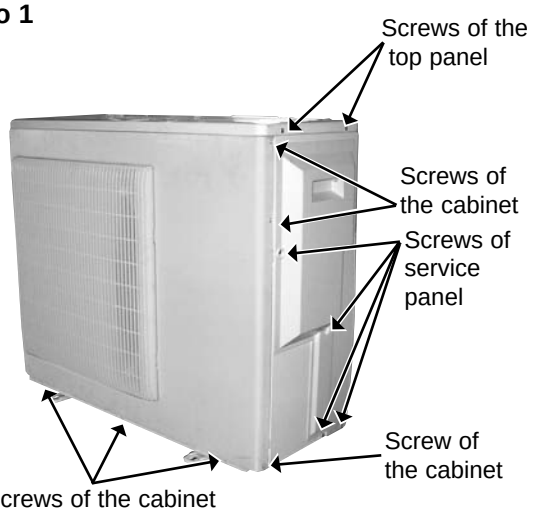
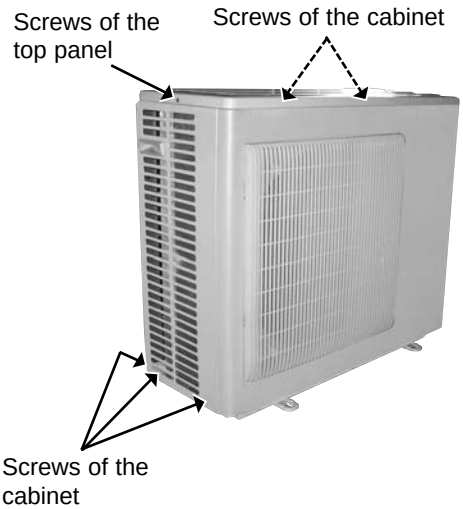
①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

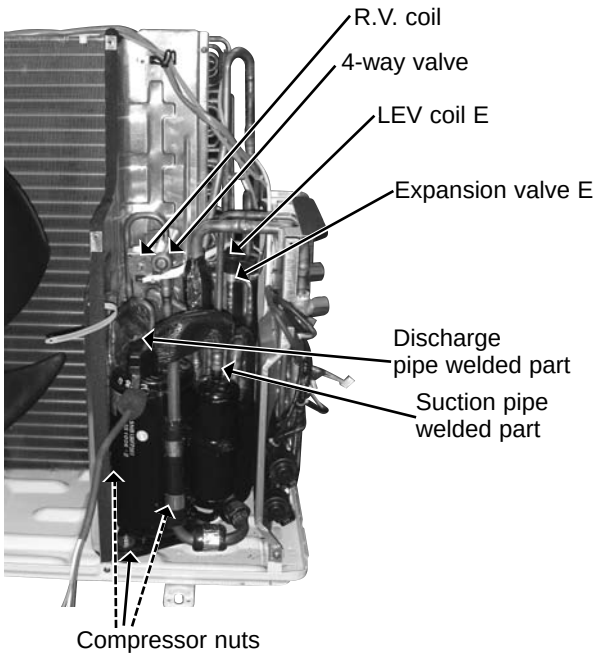
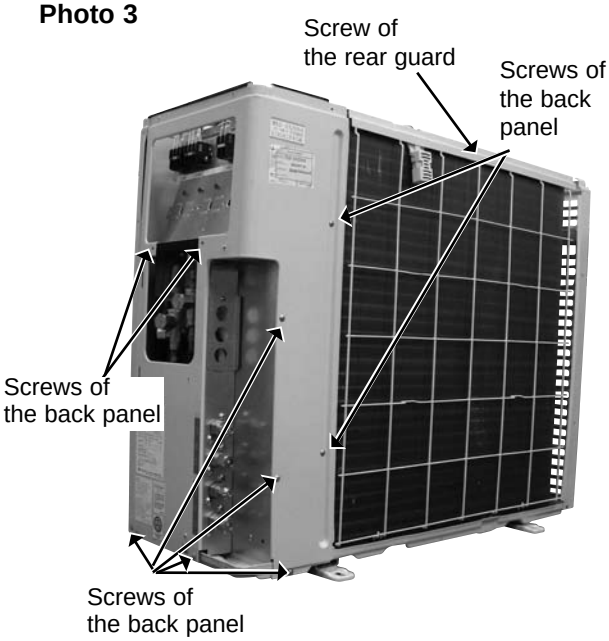
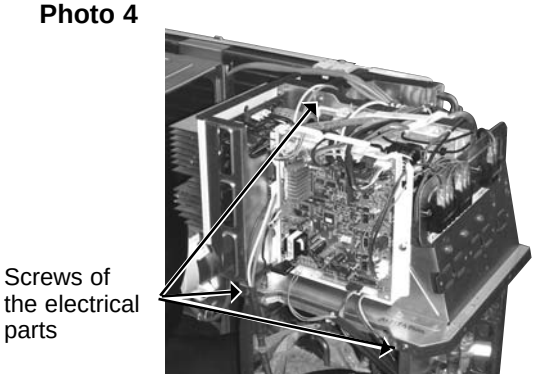
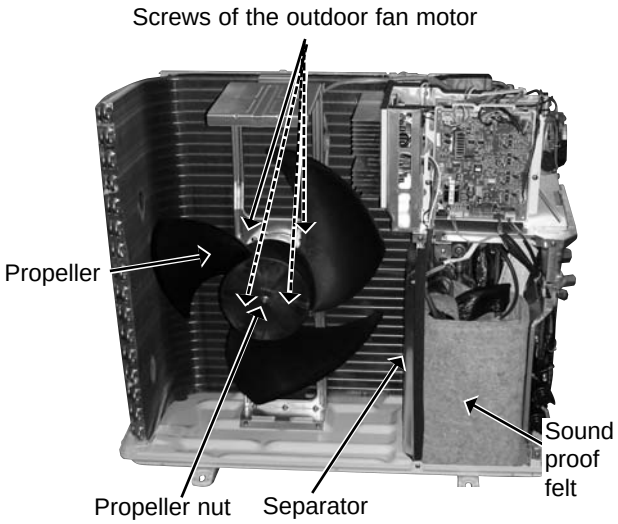
(2) The terminal with this connector has the locking mechanism.

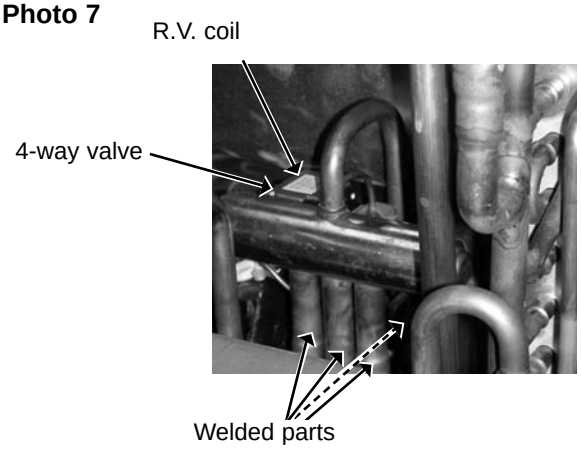
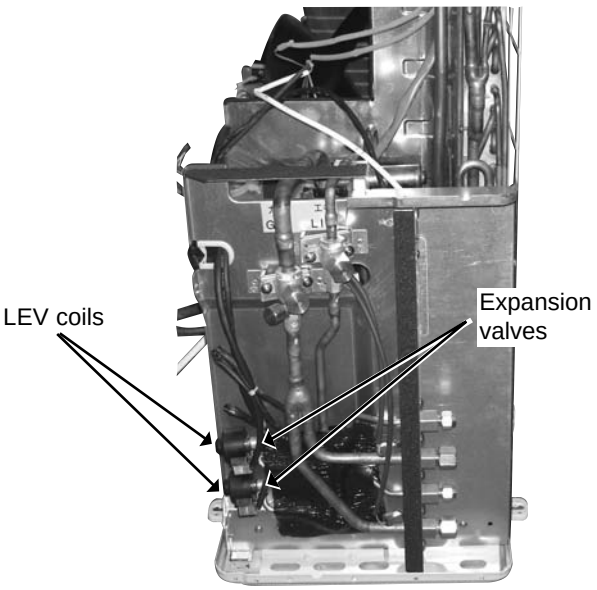
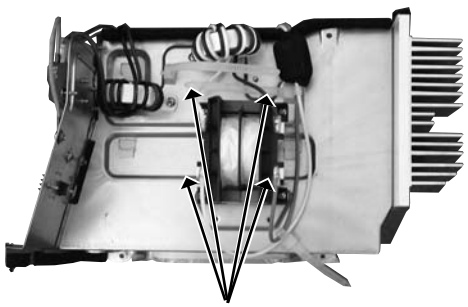


①Hold the sleeve, and pull out the terminal slowly.

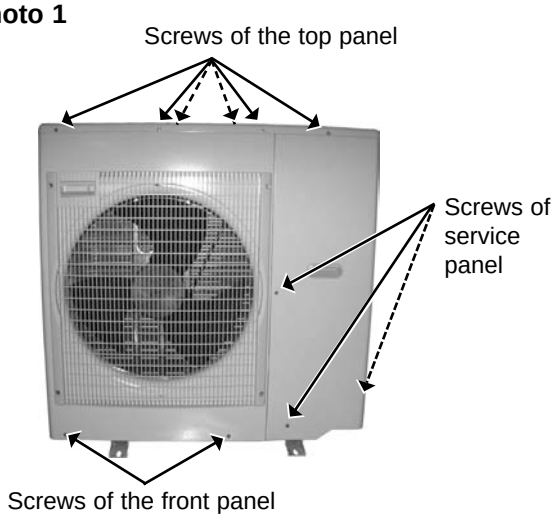
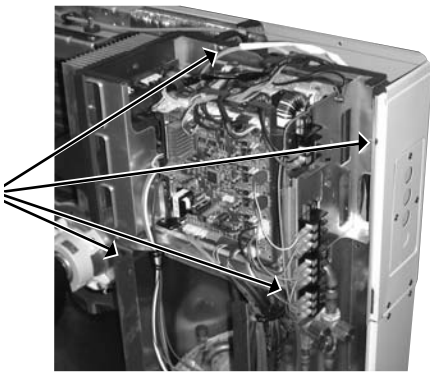
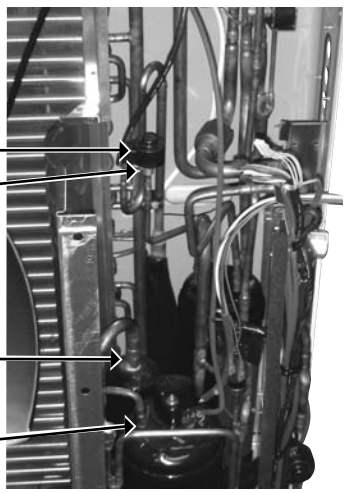
12-1. MXZ-2A20NA MXZ-2A20NA - 1 OUTDOOR UNIT

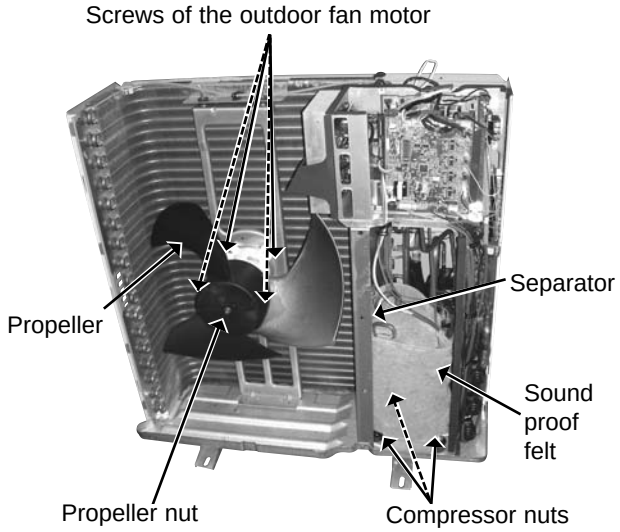
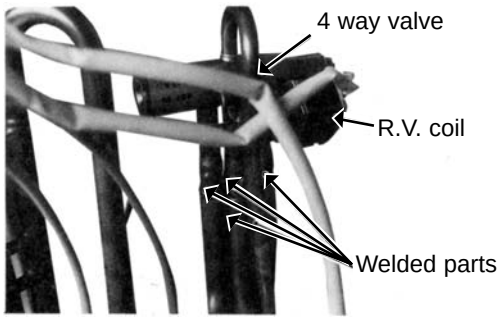
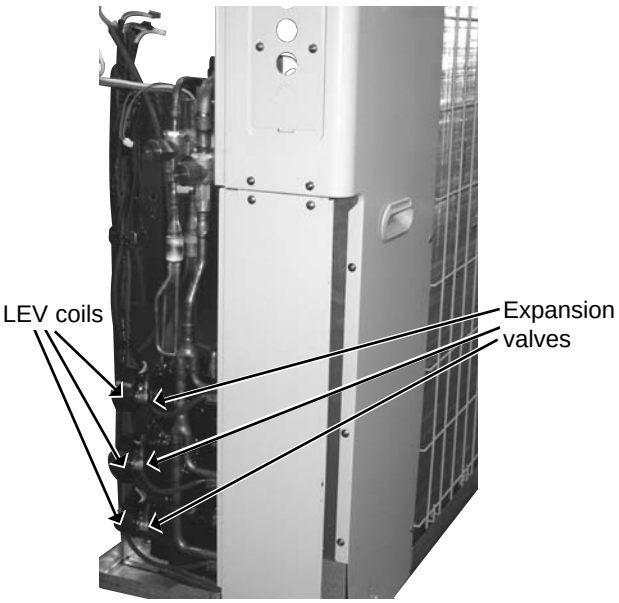
OPERATING PROCEDURE	PHOTOS
1. Removing the compressor (1)Remove the screws of the top panel, and remove the top panel. (2)Remove the screws of the service panel, and remove the service panel. Recover refrigerant gas. (3)Remove the screws of the cabinet, and remove the cabinet. (4)Remove the screws of the back panel, and remove the back panel (Photo 3). (5)Disconnect the compressor lead wire from terminal of the compressor (U, V, W). (6)Disconnect the outdoor electronic control P.C. board connectors: CN661, CN662 (MXZ-2A20NA), CN663, CN791, CN792, CN795, CN931, CN932 Disconnect the noise filter P.C. board connector: CN912 (7)Remove the screws of the electrical parts, and remove the electrical parts (Photo 4). (8)Remove the propeller. (9)Remove the screws of the separator, and remove the separator (Photo 6). (10)Remove the sound proof felt (Photo 6). (11)Detach the welded parts of the compressor suction and discharge pipes (Photo 5). (12)Remove the compressor nuts and remove the compressor.	**Photo 1**  **Photo 2** 

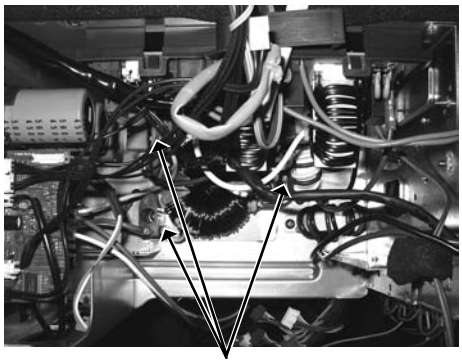
OPERATING PROCEDURE	PHOTOS
Photo 5  	**Photo 3**  **Photo 4** 
2. Removing the fan motor (1)Remove the top panel, the service panel, and the cabinet (Photo 1). (2)Disconnect the connectors CN931 and CN932 on the outdoor electronic control P.C. board. (3)Remove the propeller. (4)Remove the fan motor.	**Photo 6** 

OPERATING PROCEDURE	PHOTOS
3. Removing the 4-way valve (1)Remove the top panel (Photo 1). (2)Remove the service panel, the cabinet and the back panel (Photo 1, 2, 3). Recover refrigerant gas. (3)Remove the electrical parts (Photo 4). (4)Detach the welded parts of 4-way valve and pipe.	**Photo 7** 
4. Removing the expansion valve (1)Remove the top panel (Photo 1). (2)Remove the service panel, the cabinet and the back panel (Photo 1, 2, 3). (Gas recovery is not required if the unit is pumped down.) (3)Remove the cabinet for removing LEV E (Photo 1, 2, 5). (4)Remove the electrical parts for removing LEV E (Photo 4, 5). (5)Remove the LEV coils. (6)Detach the welded parts of expansion valves and pipes.	**Photo 8** 
5. Removing the reactor (1)Remove the top panel (Photo 1). (2)Remove the service panel, cabinet, back panel and the relay panel. (3)Disconnect the reactor lead wire from the terminal of the reactor. (4)Remove the screws of the reactor, and remove the reactor (Photo 9).	**Photo 9** 

12-2. MXZ-3A30NA
OUTDOOR UNIT

OPERATING PROCEDURE	PHOTOS
1. Removing the compressor (1)Remove the screws of the top panel, and remove the top panel (Photo 1). (2)Remove the screws of the service panel, and remove the service panel (Photo 1). Recover refrigerant gas. (3)Remove the screws of the front panel, and remove the front panel. (4)Disconnect the compressor lead wire from terminal of compressor (U, V, W). (5)Disconnect the outdoor electronic control P.C. board connectors: CN661, CN662 , CN663, CN681, CN791, CN792, CN793, CN795, CN931, CN932 Disconnect the noise filter P.C. board connector: CN912 (6)Remove the screws of the electrical parts, and remove the electrical parts (Photo 2). (7)Remove the propeller. (8)Remove the screws of the separator, and remove the separator. (9)Remove the sound proof felt. (10)Detach the welded parts of the compressor suction and discharge pipes (Photo 3). (11)Remove the compressor nuts and remove the compressor.	**Photo 1**  **Photo 2**  **Photo 3** 

OPERATING PROCEDURE	PHOTOS
2. Removing the fan motor (1)Remove the top panel, the service panel, and the front panel (Photo 1). (2)Disconnect the connectors CN931 and CN932 on the outdoor electronic control P.C. board. (3)Remove the propeller. (4)Remove the fan motor.	**Photo 4** 
3. Removing the 4-way valve (1)Remove the top panel (Photo 1). (2)Remove the service panel, rear panel, and pipe cover. Recover refrigerant gas. (3)Remove the electrical parts (Photo 2). (4)Detach the welded parts of 4-way valve and pipe.	**Photo 5** 
4. Removing the expansion valve (1)Remove the top panel (Photo 1). (2)Remove the service panel (Photo 1). (Gas recovery is not required if the unit is pumped down.) (3)Remove the front panel for removing LEV E (Photo 1, 3). (4)Remove the electrical parts for removing LEV E (Photo 2, 3). (5)Remove the LEV coils. (6)Detach the welded parts of expansion valves and pipes.	**Photo 6** 

OPERATING PROCEDURE	PHOTOS
5. Removing the reactor (1)Remove the top panel (Photo 1). (2)Disconnect the reactor lead wire. (3)Remove the screws of the reactor, and remove the reactor.	**Photo 7**  Screws of the reactor

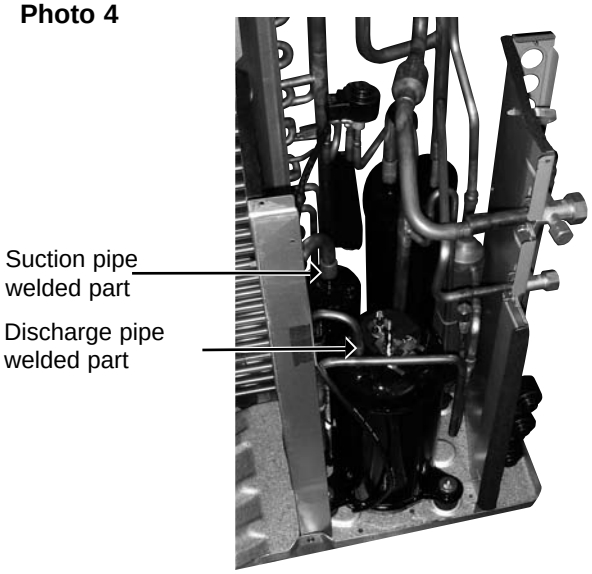
12-3. MXZ-3A30NA - 1
OUTDOOR UNIT

OPERATING PROCEDURE

1. Removing the compressor

(1)Remove the screws of the top panel, and remove the top panel.
(2)Remove the screws of the service panel, and remove the service panel.
Recover refrigerant gas.
(3)Remove the screws of the front panel, and remove the front panel.
(4)Remove the screws of the rear panel, and remove the rear panel.
(5)Disconnect the compressor lead wire from terminal of compressor (U, V, W).
(6)Disconnect the outdoor electronic control P.C. board connectors:
CN661, CN663, CN681, CN791, CN792, CN793, CN796, CN931, CN932
Disconnect the noise filter P.C. board connector:
CN912
(7)Remove the screws of the electrical parts, and remove the electrical parts.
(8)Remove the propeller.
(9)Remove the screws of the separator, and remove the separator.
(10)Remove the sound proof felt.
(11)Detach the welded parts of the compressor suction and discharge pipes (Photo 4).
(12)Remove the compressor nuts and remove the compressor.

Photo 4



PHOTOS

Photo 1 Screws of the top panel

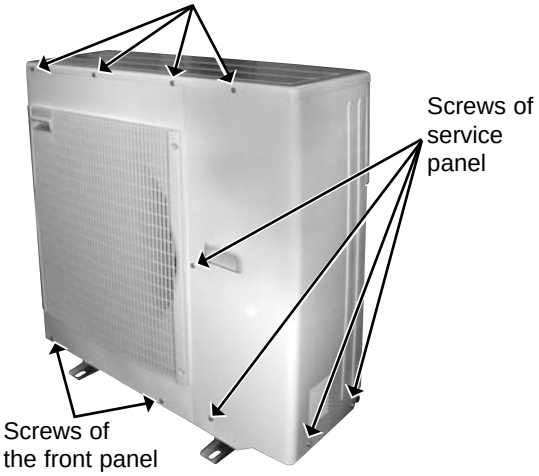


Photo 2

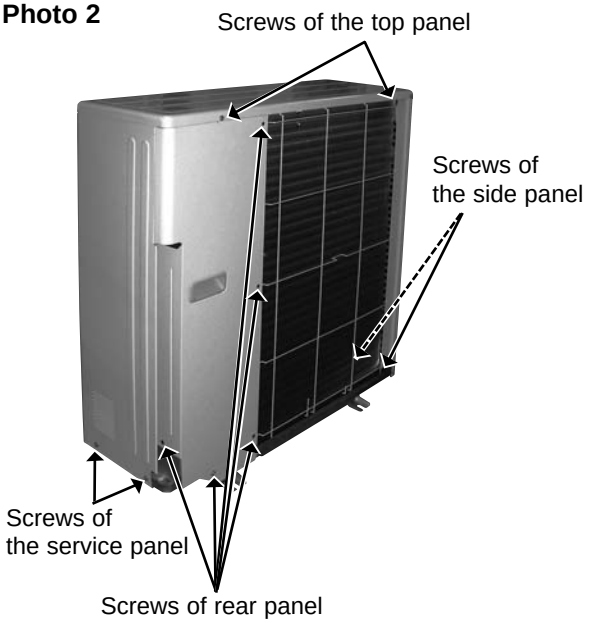
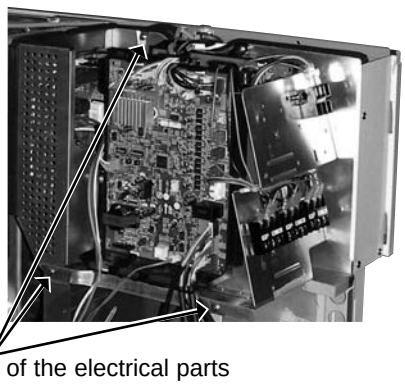
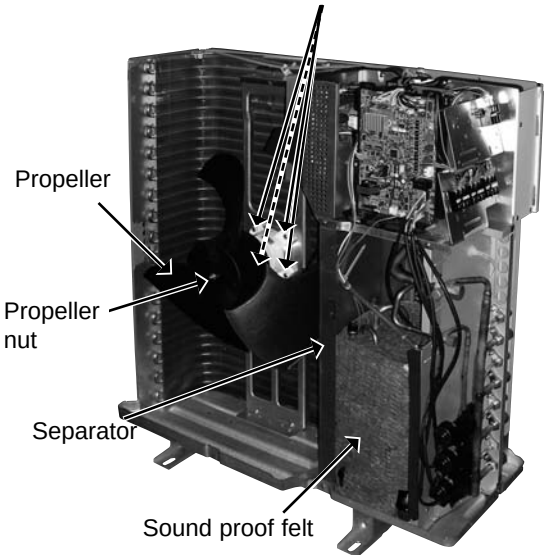
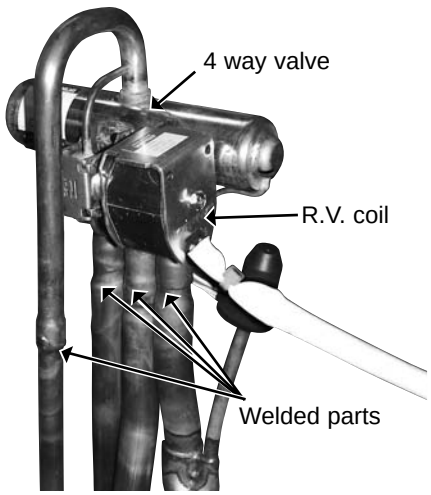
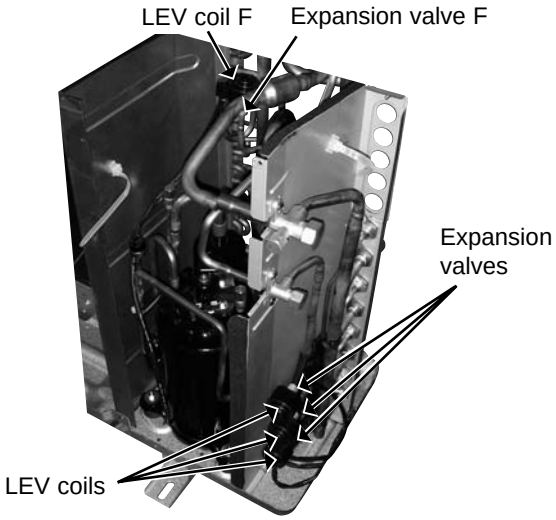
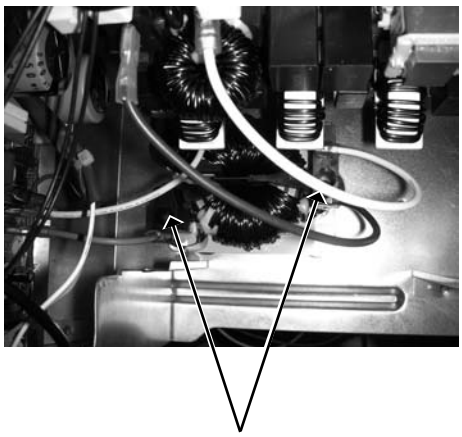


Photo 3



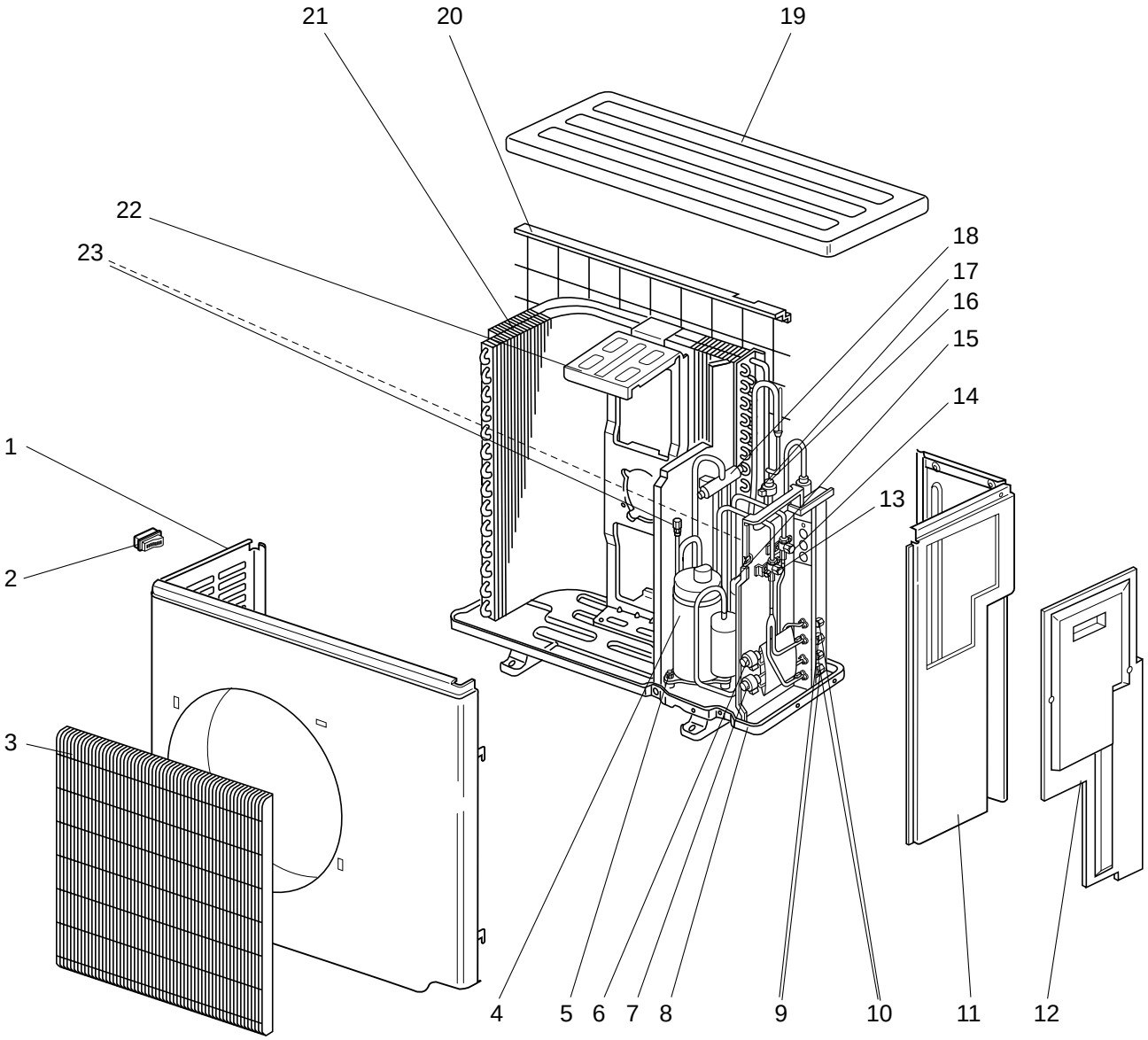
OPERATING PROCEDURE	PHOTOS
2. Removing the fan motor (1)Remove the top panel, the service panel, and the front panel (Photo 1, 2). (2)Disconnect the connectors CN931 and CN932 on the outdoor electronic control P.C. board. (3)Remove the propeller. (4)Remove the fan motor.	**Photo 5** Screws of the outdoor fan motor 
3. Removing the 4-way valve (1)Remove the top panel (Photo 1, 2). (2)Remove the service panel, rear panel, and pipe cover (Photo 1,2). Recover refrigerant gas. (3)Remove the electrical parts (Photo 3). (4)Detach the welded parts of 4-way valve and pipe.	**Photo 6** 
4. Removing the expansion valve (1)Remove the top panel (Photo 1, 2). (2)Remove the service panel (Photo 1, 2). (Gas recovery is not required if the unit is pumped down.) (3)Remove the front panel for removing LEV F (Photo 1). (4)Remove the electrical parts for removing LEV F (Photo 3). (5)Remove the LEV coils. (6)Detach the welded parts of expansion valves and pipes.	**Photo 7** 

OPERATING PROCEDURE	PHOTOS
5. Removing the reactor (1)Remove the top panel (Photo 1, 2). (2)Disconnect the reactor lead wire. (3)Remove the screws of the reactor, and remove the reactor.	**Photo 8**  Screws of the reactor

13 PARTS LIST (non-RoHS compliant)

MXZ-2A20NA

13-1. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS



PARTS LIST (non-RoHS compliant)

MXZ-2A20NA
13-1. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS

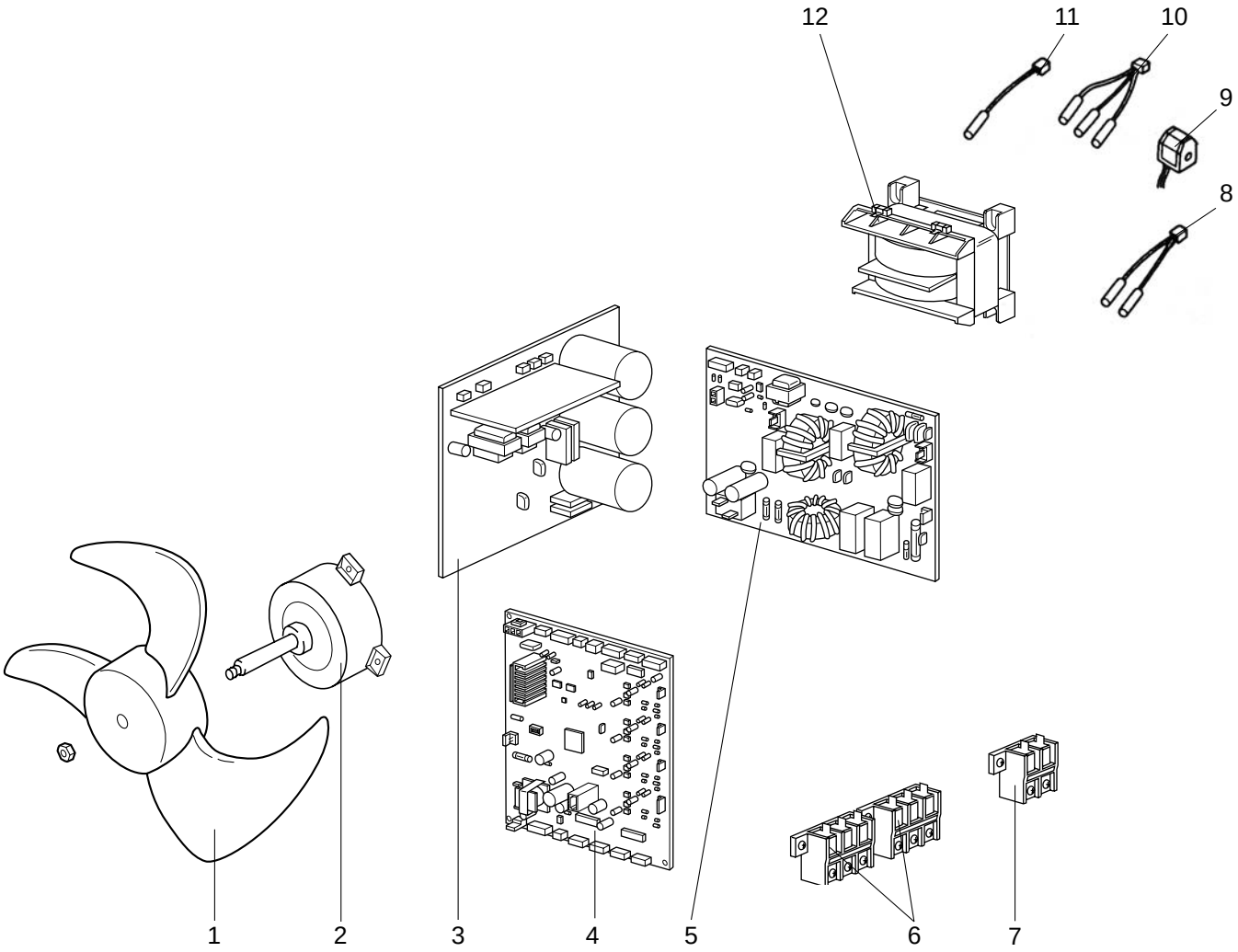
Part numbers that are circled are not shown in the illustration.

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
				MXZ-2A20NA	
1	E02 939 232	CABINET		1	
2	E02 817 009	HANDLE		1	
3	E02 939 521	GRILLE		1	
4	E02 B05 900	COMPRESSOR	MC	1	SNB130FPDH1
5	E02 065 506	COMPRESSOR RUBBER SET		3	3RUBBERS SET
6	E02 851 640	EXPANSION VALVE		1	B room
	E02 939 493	LEV COIL	LEV B	1	B room
7	E02 851 640	EXPANSION VALVE		1	A room
	E02 938 493	LEV COIL	LEV A	1	A room
8	E02 939 290	BASE		1	
9	E02 939 666	UNION(GAS)		2	ϕ3/8
10	E02 939 667	UNION(LIQUID)		2	ϕ1/4
11	E02 939 233	BACK PANEL		1	
12	E02 939 245	SERVICE PANEL		1	
13	E02 B05 661	BALL VALVE (GAS)		1	ϕ5/8
14	E02 939 662	BALL VALVE (LIQUID)		1	ϕ3/8
15	E02 938 959	POWER RECEIVER		1	
16	E02 819 640	EXPANSION VALVE		1	E
17	E02 819 493	LEV COIL	LEV E	1	
18	E02 A56 961	4-WAY VALVE		1	
19	E02 819 297	TOP PANEL		1	
20	E02 939 523	REAR GUARD		1	
21	E02 B05 630	HEAT EXCHANGER		1	
22	E02 939 515	MOTOR SUPPORT		1	
23	E02 A49 641	SERVICE PORT		2	
(24)	E02 938 937	CAPILLARY TUBE		8	O.D.0.14×I.D.0.09×19.68
(25)	E02 939 936	CAPILLARY TUBE		2	O.D.0.16×I.D.0.11×3.93
(26)	E02 938 936	CAPILLARY TUBE		1	O.D.0.98×I.D.0.02×39.37
(27)	E02 B05 299	OIL SEPARATOR		1	

PARTS LIST (non-RoHS compliant)

MXZ-2A20NA

13-2. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



PARTS LIST (non-RoHS compliant)

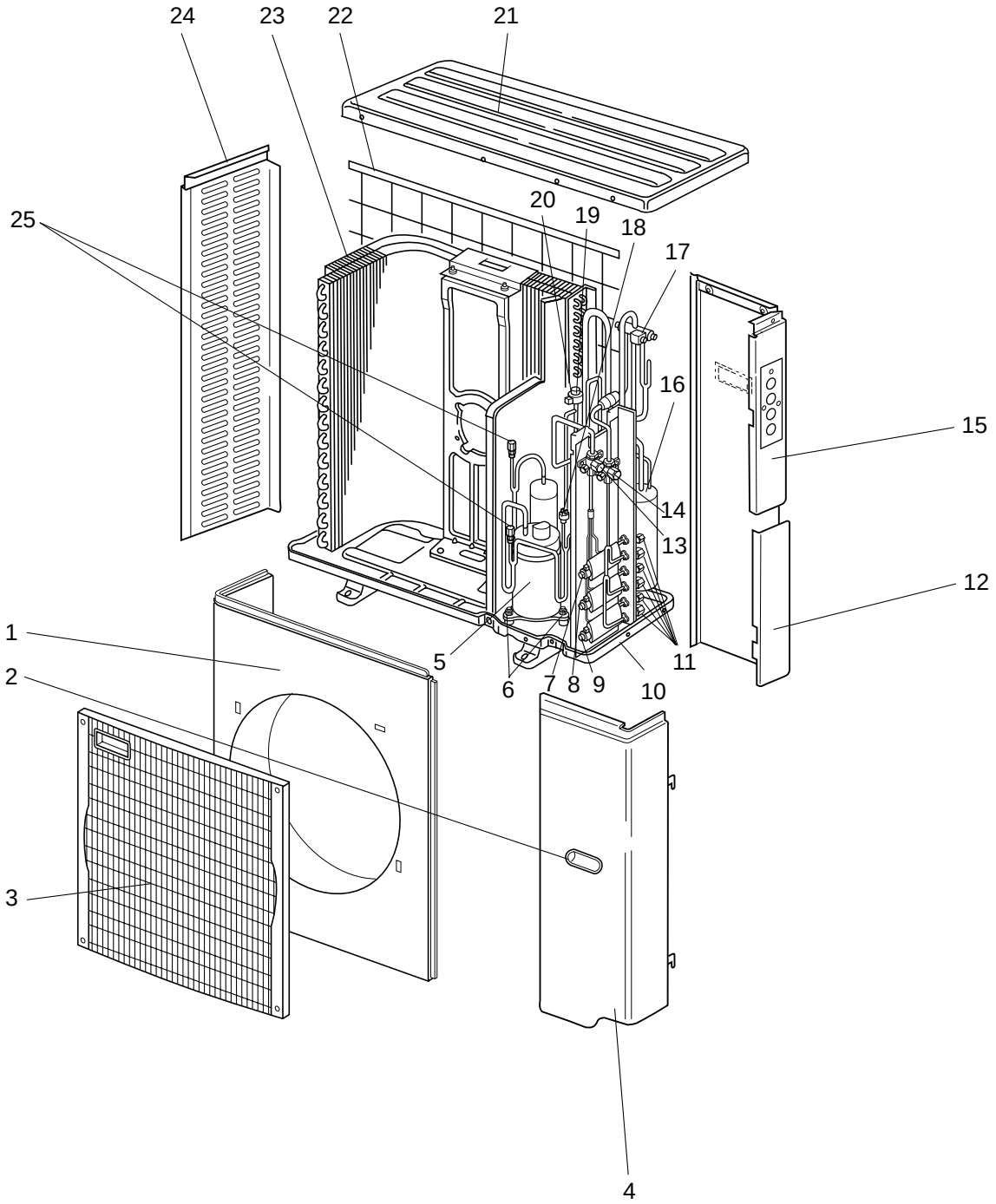
MXZ-2A20NA
13-2. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
				MXZ-2A20NA	
1	E02 851 501	PROPELLER		1	
2	E02 A58 301	OUTDOOR FAN MOTOR	MF	1	RC0J60- □□
3	E02 B05 440	POWER BOARD		1	Including heat sink and RT64
4	E02 B05 450	ELECTRONIC CONTROL P.C. BOARD		1	
5	E02 B05 444	NOISE FILTER P.C. BOARD		1	
6	E02 927 374	TERMINAL BLOCK	TB2,3	2	Indoor unit connecting
7	E02 A53 374	TERMINAL BLOCK	TB1	1	Power supply
8	E02 977 307	GAS PIPE TEMPERATURE THERMISTOR SET	RT6A,B	1	
9	E02 B05 490	R.V. COIL	21S4	1	
10	E02 938 308	THERMISTOR SET	RT61,62,68	1	DEFROST, DISCHARGE OUTDOOR HEAT EXCHANGER
11	E02 938 309	AMBIENT TEMPERATURE THERMISTOR	RT65	1	
12	E02 938 337	REACTOR	L	1	20A 600μH

PARTS LIST (non-RoHS compliant)

MXZ-3A30NA

13-3. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS



PARTS LIST (non-RoHS compliant)

MXZ-3A30NA
13-3. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS

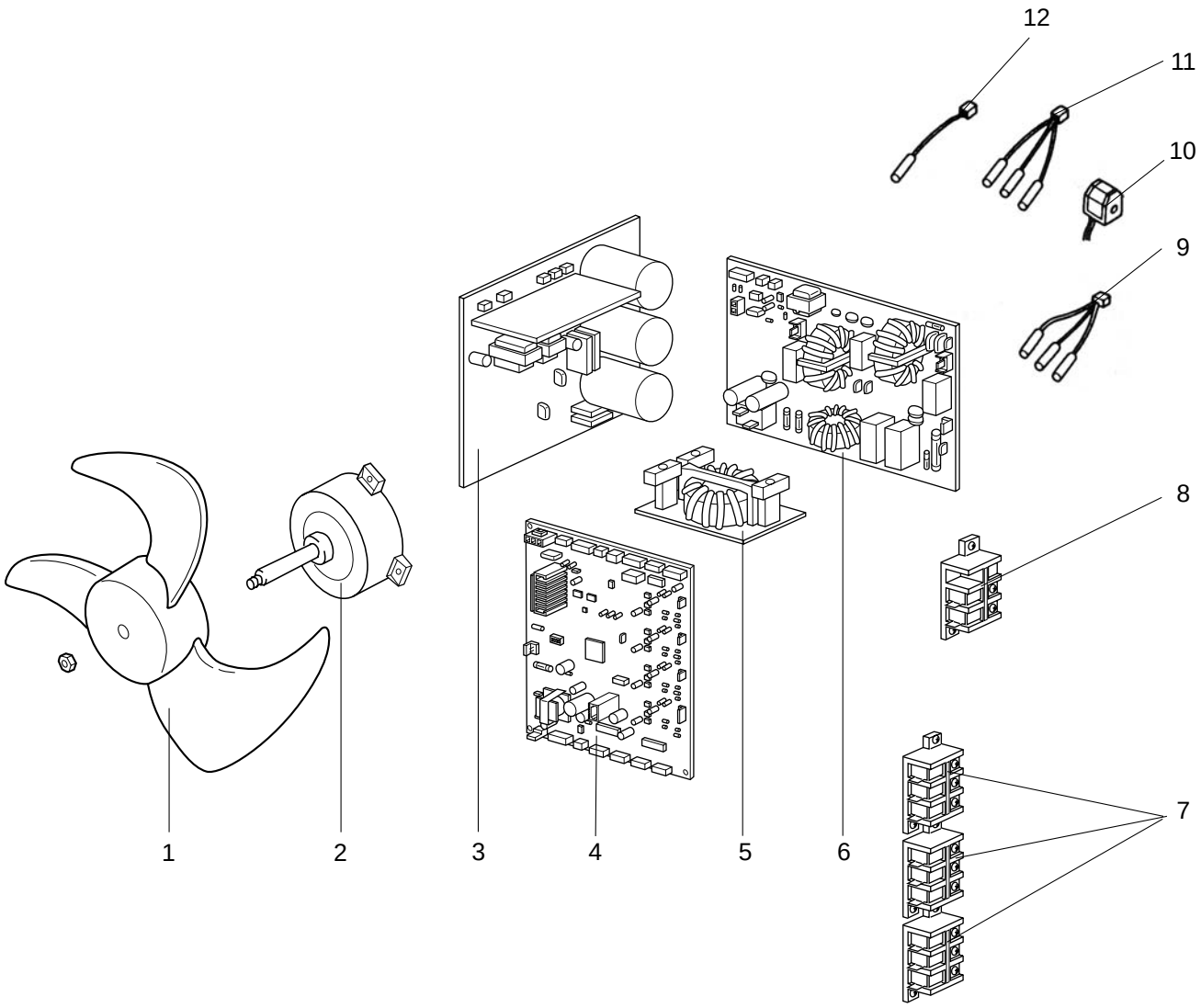
Part numbers that are circled are not shown in the illustration.

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
				MXZ-3A30NA	
1	M21 TK0 232	FRONT PANEL		1	
2	M21 TK0 027	HANDLE ASSEMBLY		2	
3	M21 TK5 010	GRILLE		1	
4	M21 TK0 245	SERVICE PANEL		1	
5	T92 500 801	COMPRESSOR	MC	1	TNB220FMCH
6	T2W TK0 505	COMPRESSOR RUBBER SET		3	3RUBBERS SET
7	R01 E39 401	EXPANSION VALVE		1	C room
	T2W TK0 653	LEV COIL	LEV C	1	C room
8	R01 E39 401	EXPANSION VALVE		1	B room
	T2W TK0 652	LEV COIL	LEV B	1	B room
9	R01 E39 401	EXPANSION VALVE		1	A room
	T2W TK0 651	LEV COIL	LEV A	1	A room
10	M21 TK0 290	BASE ASSEMBLY		1	
11	M21 42E 644	UNION		1	ϕ1/2,ϕ3/8,ϕ1/4 SET
12	T2W TK0 247	PIPE COVER		1	
13	M21 TK5 667	BALL VALVE (LIQUID) 3/8		1	ϕ3/8
14	T2W J7E 667	BALL VALVE (GAS) 5/8		1	ϕ5/8
15	M21 J7E 248	REAR PANEL		1	
16	T2W TK0 959	POWER RECEIVER		1	
17	T2W J7E 961	4-WAY VALVE		1	
18	M21 NT1 646	HIGH PRESSURE SWITCH	HPS	1	4.8MPa(48.9kg/cm^2)
19	T2W WW8 401	EXPANSION VALVE		1	E
20	T2W TK0 651	LEV COIL	LEV E	1	
21	M21 TK0 297	TOP PANEL		1	
22	T2W E40 523	REAR GUARD		1	
23	M21 J7E 630	HEAT EXCHANGER		1	
24	M21 TK0 249	SIDE PANEL		1	
25	M21 J7E 641	SERVICE PORT		2	
(26)	M21 SJ4 937	CAPILLARY TUBE		2	O.D.0.16×I.D.0.09×15.75
(27)	M21 TK0 936	CAPILLARY TUBE		3	O.D.0.16×I.D.0.11×3.54
(28)	T2W E59 936	CAPILLARY TUBE		1	O.D.0.10×I.D.0.02×39.37
(29)	T2W J7E 656	OIL SEPARATOR		1	

PARTS LIST (non-RoHS compliant)

MXZ-3A30NA

13-4. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



PARTS LIST (non-RoHS compliant)

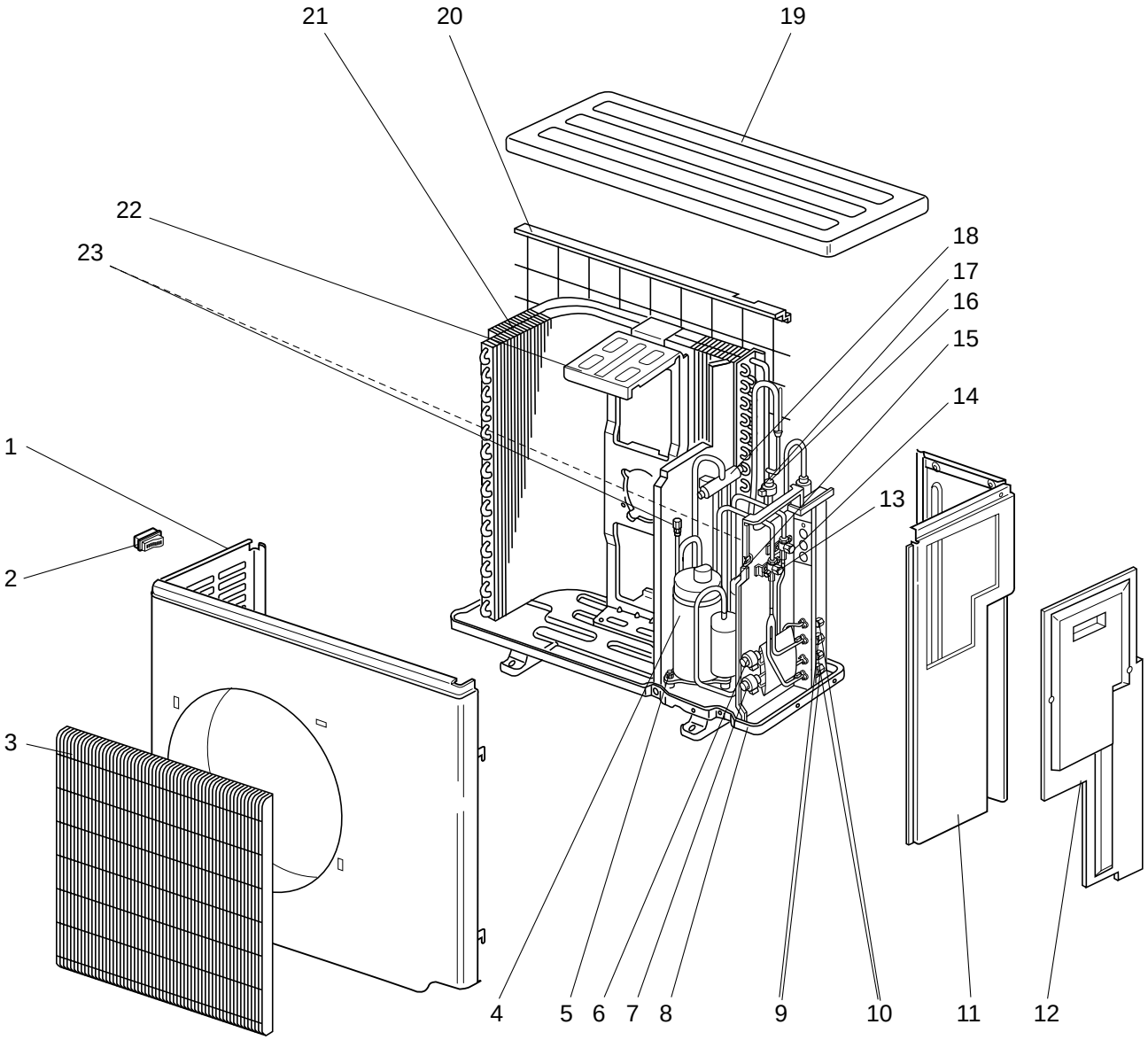
MXZ-3A30NA
13-4. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

No.	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
				MXZ-3A30NA	
1	M21 TK0 501	PROPELLER		1	
2	T2W J7E 301	OUTDOOR FAN MOTOR	MF	1	RC0J60- □□
3	T2W J7E 440	POWER BOARD		1	Including heat sink and RT64
4	T2W J7E 451	ELECTRONIC CONTROL P.C. BOARD		1	
5	M21 TK0 337	REACTOR	L	1	20A 600μH
6	T2W J7E 424	NOISE FILTER P.C. BOARD		1	
7	T2W YH1 376	TERMINAL BLOCK	TB2~4	3	Indoor unit connecting
8	T2W J7E 376	TERMINAL BLOCK	TB1	1	Power supply
9	T2W E88 307	GAS PIPE TEMPERATURE THERMISTOR	RT6A,B,C	1	
10	T2W J7E 398	R.V. COIL	21S4	1	
11	M21 G0H 308	THERMISTOR SET	RT61,62,68	1	DEFROST, DISCHARGE, OUTDOOR HEAT EXCHANGER
12	M21 90V 309	AMBIENT TEMPERATURE THERMISTOR	RT65	1	

14 RoHS PARTS LIST (RoHS compliant)

MXZ-2A20NA MXZ-2A20NA - 1

14-1. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS



PARTS LIST (RoHS compliant)

MXZ-2A20NA MXZ-2A20NA - 1

14-1. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS

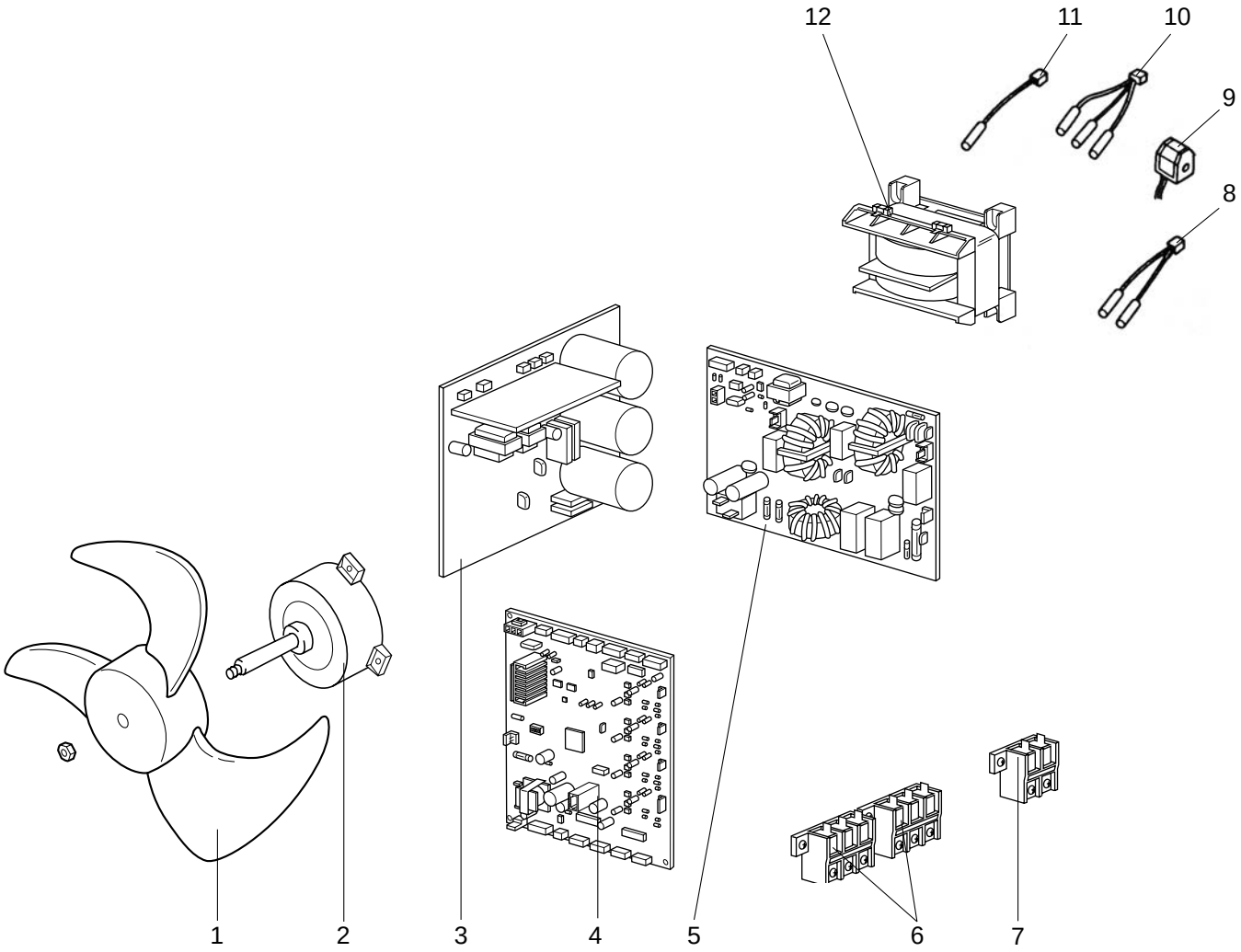
Part numbers that are circled are not shown in the illustration.

No.	RoHS	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit		Remarks
					MXZ-2A20NA	MXZ-2A20NA - 1	
1	G	E12 939 232	CABINET		1	1	
2	G	E12 817 009	HANDLE		1	1	
3	G	E12 939 521	GRILLE		1	1	
4	G	E12 B05 900	COMPRESSOR	MC	1		SNB130FPDH1
	G	E12 C15 900	COMPRESSOR	MC		1	SNB130FQBH1
5	G	E12 065 506	COMPRESSOR RUBBER SET		3	3	3RUBBERS SET
6	G	E12 851 640	EXPANSION VALVE		1	1	B room
	G	E12 939 493	LEV COIL	LEV B	1	1	B room
7	G	E12 851 640	EXPANSION VALVE		1	1	A room
	G	E12 938 493	LEV COIL	LEV A	1	1	A room
8	G	E12 939 290	BASE		1	1	
9	G	E12 C06 666	UNION(GAS)		2		ϕ3/8
	G	E12 C18 666	UNION(GAS)			2	ϕ3/8
10	G	E12 C06 667	UNION(LIQUID)		2		ϕ1/4
	G	E12 C18 667	UNION(LIQUID)			2	ϕ1/4
11	G	E12 939 233	BACK PANEL		1	1	
12	G	E12 939 245	SERVICE PANEL		1	1	
13	G	E12 C15 661	BALL VALVE (GAS)		1	1	ϕ5/8
14	G	E12 C06 662	BALL VALVE (LIQUID)		1	1	ϕ3/8
15	G	E12 938 959	POWER RECEIVER		1		
	G	E12 C18 959	POWER RECEIVER			1	
16	G	E12 853 640	EXPANSION VALVE		1	1	E
17	G	E12 819 493	LEV COIL	LEV E	1	1	
18	G	E12 A56 961	4-WAY VALVE		1	1	
19	G	E12 819 297	TOP PANEL		1	1	
20	G	E12 939 523	REAR GUARD		1	1	
21	G	E12 B05 630	HEAT EXCHANGER		1	1	
22	G	E12 939 515	MOTOR SUPPORT		1	1	
23	G	E12 A49 641	SERVICE PORT		2	2	
(24)	G	E12 938 937	CAPILLARY TUBE		8	8	O.D.0.14×I.D.0.09×19.68
(25)	G	E12 939 936	CAPILLARY TUBE		2	2	O.D.0.16×I.D.0.11×3.93
(26)	G	E12 938 936	CAPILLARY TUBE		1	1	O.D.0.98×I.D.0.02×39.37
(27)	G	E12 B05 299	OIL SEPARATOR		1	1	

RoHS PARTS LIST (RoHS compliant)

MXZ-2A20NA MXZ-2A20NA - 1

14-2. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



PARTS LIST (RoHS compliant)

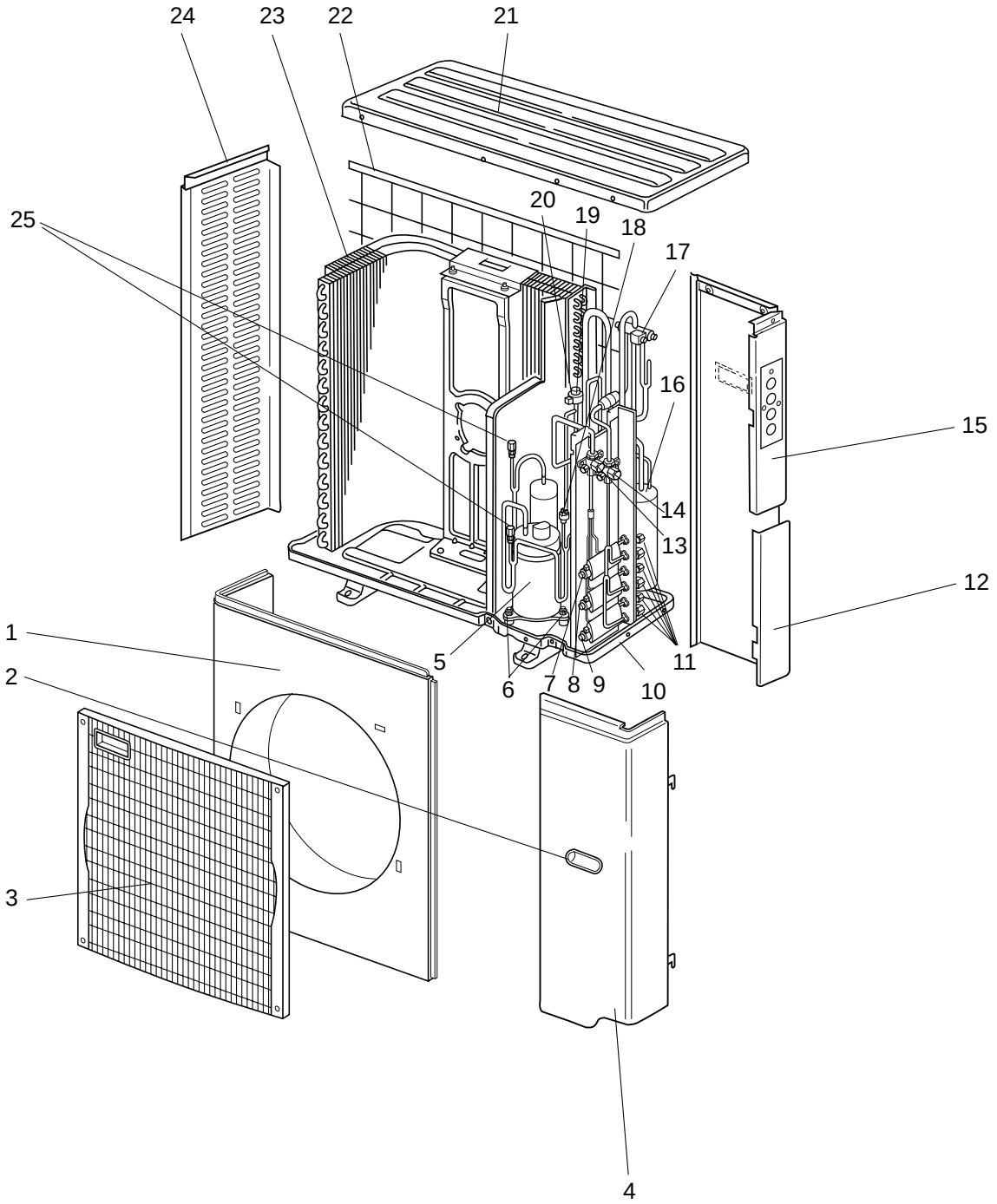
MXZ-2A20NA MXZ-2A20NA - 1
14-2. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

No.	RoHS	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit		Remarks
					MXZ-2A20NA	MXZ-2A20NA - 1	
1	G	E12 851 501	PROPELLER		1	1	
2	G	E12 A58 301	OUTDOOR FAN MOTOR	MF	1	1	RC0J60- □□
3	G	E12 B05 440	POWER BOARD		1		Including heat sink and RT64
	G	E12 C15 440	POWER BOARD			1	Including heat sink and RT64
4	G	E12 B05 450	ELECTRONIC CONTROL P.C. BOARD		1		
	G	E12 C15 450	ELECTRONIC CONTROL P.C. BOARD			1	
5	G	E12 B05 444	NOISE FILTER P.C. BOARD		1	1	
6	G	E12 927 374	TERMINAL BLOCK	TB2,3	2	2	Indoor unit connecting
7	G	E12 A53 374	TERMINAL BLOCK	TB1	1	1	Power supply
8	G	E12 977 307	GAS PIPE TEMPERATURE THERMISTOR SET	RT6A,B	1		
9	G	E12 B05 490	R.V. COIL	21S4	1	1	
10	G	E12 938 308	THERMISTOR SET	RT61,62,68	1	1	DEFROST, DISCHARGE OUTDOOR HEAT EXCHANGER
11	G	E12 938 309	AMBIENT TEMPERATURE THERMISTOR	RT65	1	1	
12	G	E12 938 337	REACTOR	L	1	1	20A 600μH

RoHS PARTS LIST (RoHS compliant)

MXZ-3A30NA

14-3. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS



PARTS LIST (RoHS compliant)

MXZ-3A30NA
14-3. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS

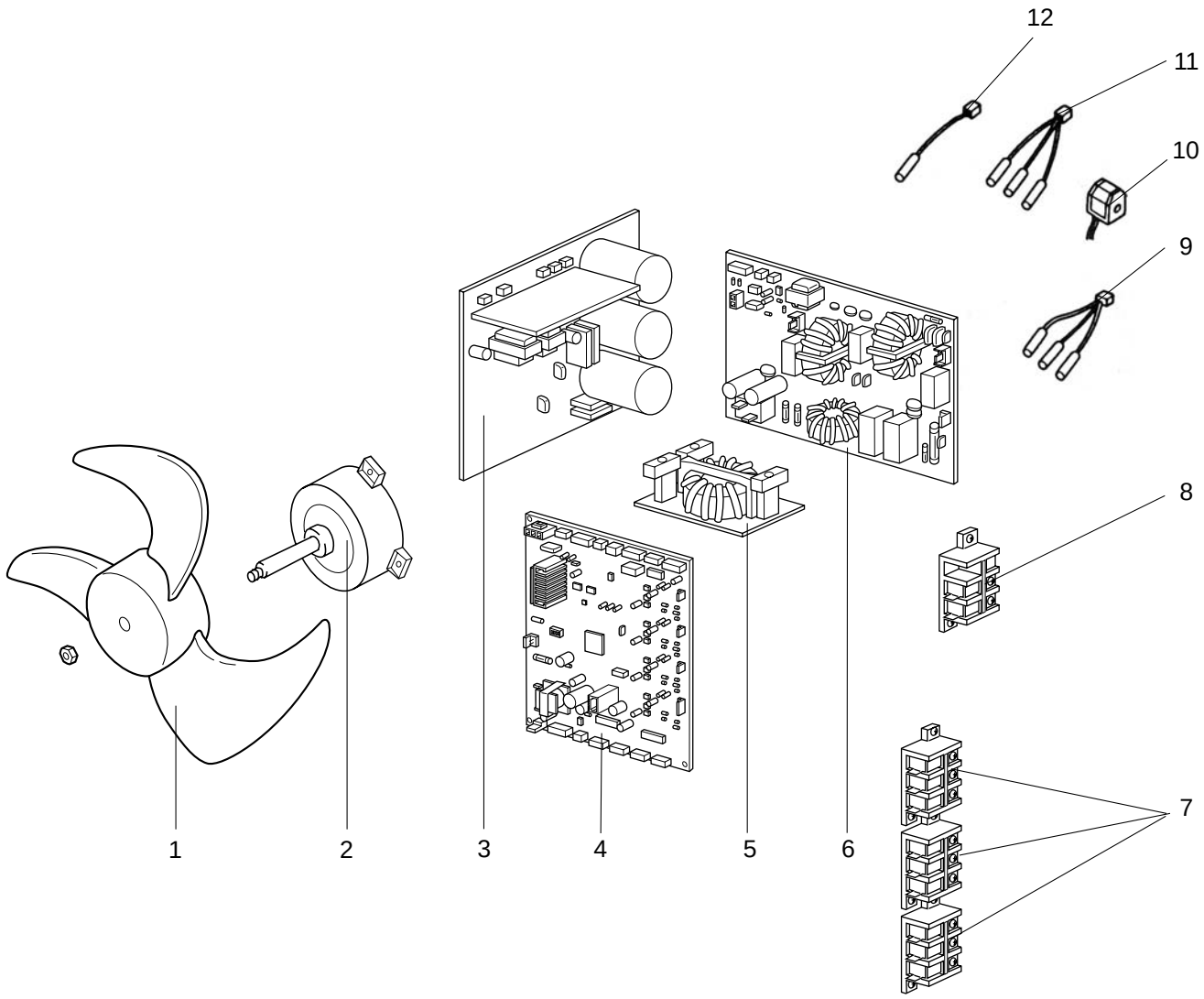
Part numbers that are circled are not shown in the illustration.

No.	RoHS	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
					MXZ-3A30NA	
1	G	M21 L2V 232	FRONT PANEL		1	
2	G	M21 L2V 027	HANDLE ASSEMBLY		2	
3	G	M21 L2V 010	GRILLE		1	
4	G	M21 L2V 245	SERVICE PANEL		1	
5	G	T92 505 801	COMPRESSOR	MC	1	TNB220FMCH
6	G	M21 L2V 505	COMPRESSOR RUBBER SET		3	3RUBBERS SET
7	G	M21 L2V 401	EXPANSION VALVE		1	C room
	G	M21 L2V 653	LEV COIL	LEV C	1	C room
8	G	M21 L2V 401	EXPANSION VALVE		1	B room
	G	M21 L2V 652	LEV COIL	LEV B	1	B room
9	G	M21 L2V 401	EXPANSION VALVE		1	A room
	G	M21 L2V 651	LEV COIL	LEV A	1	A room
10	G	M21 L2V 290	BASE ASSEMBLY		1	
11	G	M21 L2V 644	UNION		1	ϕ1/2,ϕ3/8,ϕ1/4 SET
12	G	M21 L2V 247	PIPE COVER		1	
13	G	M21 L2V 667	BALL VALVE (LIQUID) 3/8		1	ϕ3/8
14	G	T2W L7V 668	BALL VALVE (GAS) 5/8		1	ϕ5/8
15	G	T2W L7V 248	REAR PANEL		1	
16	G	T2W L7V 959	POWER RECEIVER		1	
17	G	T2W L7V 642	4-WAY VALVE		1	
18	G	M21 L2V 646	HIGH PRESSURE SWITCH	HPS	1	4.8MPa(48.9kg/cm^2)
19	G	M21 L2V 402	EXPANSION VALVE		1	E
20	G	M21 L2V 651	LEV COIL	LEV E	1	
21	G	M21 L2V 297	TOP PANEL		1	
22	G	M21 L2V 523	REAR GUARD		1	
23	G	T2W L7V 630	HEAT EXCHANGER		1	
24	G	M21 L2V 249	SIDE PANEL		1	
25	G	T2W L7V 641	SERVICE PORT		2	
(26)	G	M21 L2V 937	CAPILLARY TUBE		2	O.D.0.16×I.D.0.09×15.75
(27)	G	M21 L2V 936	CAPILLARY TUBE		3	O.D.0.16×I.D.0.11×3.54
(28)	G	M21 L2V 938	CAPILLARY TUBE		1	O.D.0.10×I.D.0.02×39.37
(29)	G	T2W L7V 656	OIL SEPARATOR		1	

RoHS PARTS LIST (RoHS compliant)

MXZ-3A30NA

14-4. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



PARTS LIST (RoHS compliant)

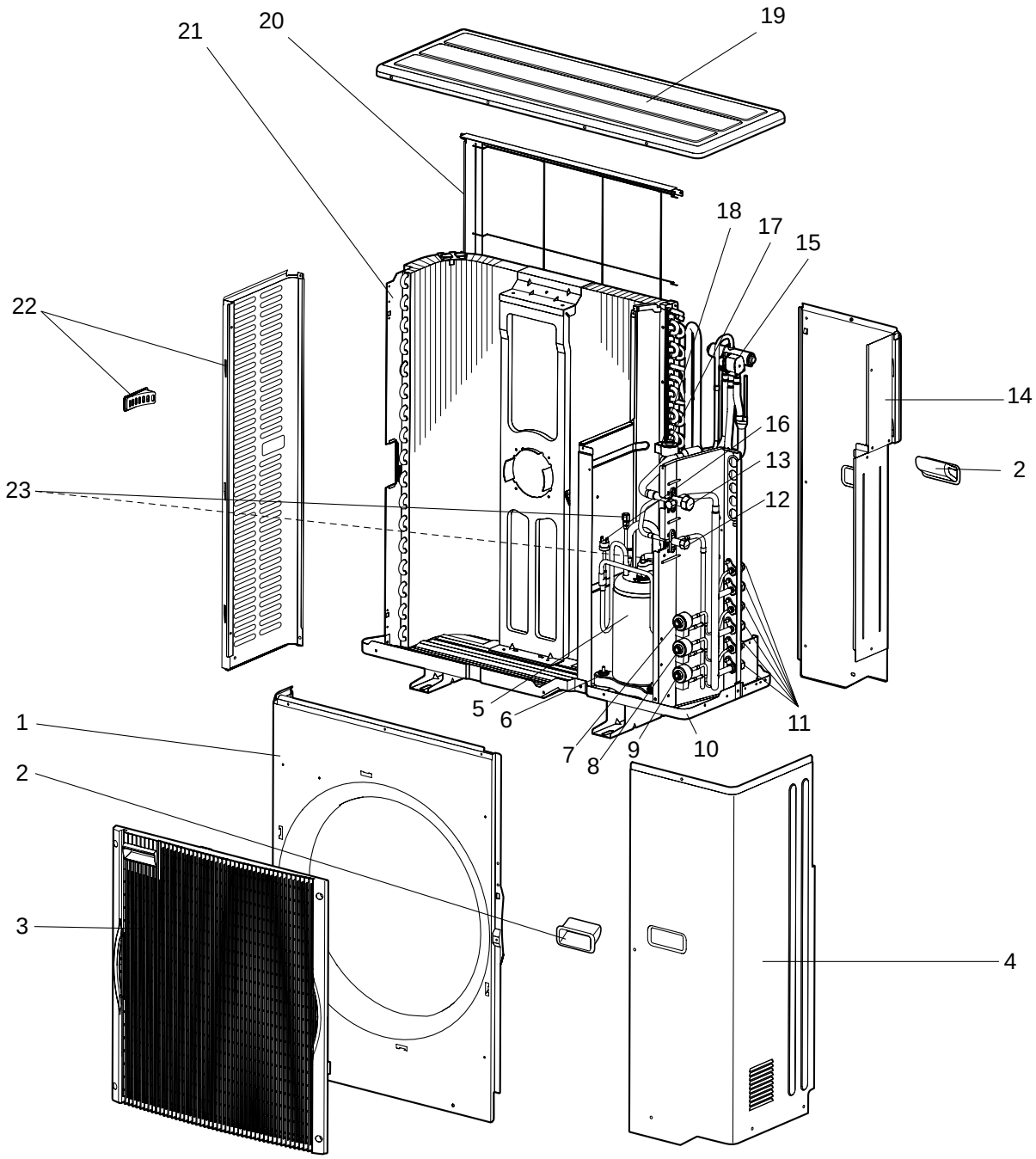
MXZ-3A30NA
14-4. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

No.	RoHS	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
					MXZ-3A30NA	
1	G	M21 L2V 501	PROPELLER		1	
2	G	T2W L7V 301	OUTDOOR FAN MOTOR	MF	1	RC0J60- □□
3	G	T2W L7V 440	POWER BOARD		1	Including heat sink and RT64
4	G	T2W L7V 451	ELECTRONIC CONTROL P.C. BOARD		1	
5	G	M21 L2V 337	REACTOR	L	1	20A 600μH
6	G	T2W L7V 424	NOISE FILTER P.C. BOARD		1	
7	G	T2W L2V 376	TERMINAL BLOCK	TB2~4	3	Indoor unit connecting
8	G	T2W L7V 377	TERMINAL BLOCK	TB1	1	Power supply
9	G	M21 L7V 307	GAS PIPE TEMPERATURE THERMISTOR	RT6A,B,C	1	
10	G	T2W L7V 398	R.V. COIL	21S4	1	
11	G	M21 L2V 308	THERMISTOR SET	RT61,62,68	1	DEFROST, DISCHARGE, OUTDOOR HEAT EXCHANGER
12	G	M21 L2V 309	AMBIENT TEMPERATURE THERMISTOR	RT65	1	

RoHS PARTS LIST (RoHS compliant)

MXZ-3A30NA - 1

14-5. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS



RoHS PARTS LIST (RoHS compliant)

MXZ-3A30NA - 1

14-5. OUTDOOR UNIT STRUCTURAL PARTS AND FUNCTIONAL PARTS

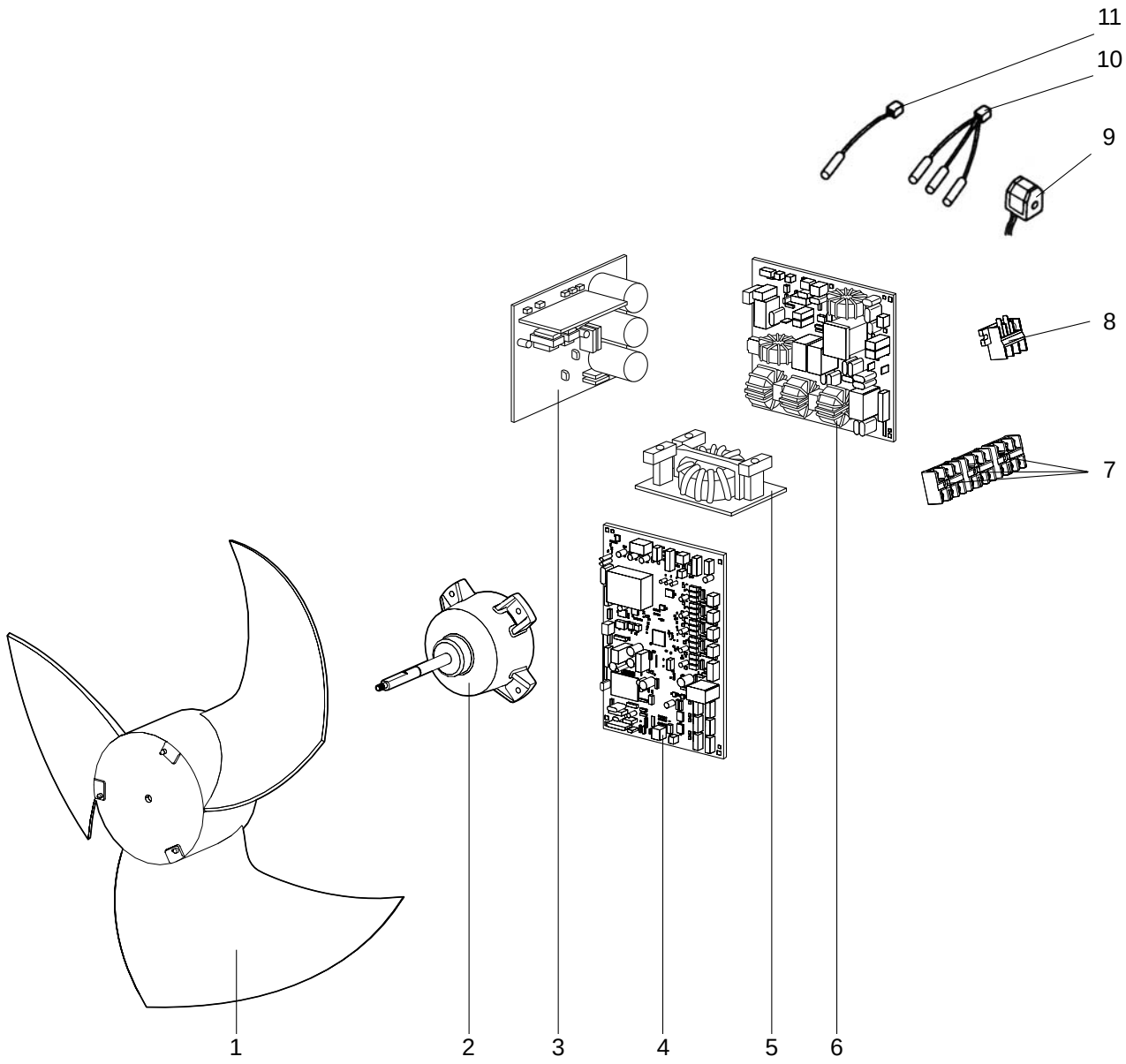
Part numbers that are circled are not shown in the illustration.

No.	RoHS	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
					MXZ-3A30NA - 1	
1	G	M21 0A2 232	FRONT PANEL		1	
2	G	M21 0A2 027	HANDLE ASSEMBLY		2	
3	G	M21 L2V 010	GRILLE		1	
4	G	M21 0A2 245	SERVICE PANEL		1	
5	G	T92 505 801	COMPRESSOR	MC	1	TNB220FMCH
6	G	M21 L2V 505	COMPRESSOR RUBBER SET		3	3RUBBERS SET
7	G	M21 L2V 401	EXPANSION VALVE		1	C room
	G	M21 L2V 653	LEV COIL	LEV C	1	C room
8	G	M21 L2V 401	EXPANSION VALVE		1	B room
	G	M21 L2V 652	LEV COIL	LEV B	1	B room
9	G	M21 L2V 401	EXPANSION VALVE		1	A room
	G	M21 L2V 651	LEV COIL	LEV A	1	A room
10	G	M21 0A2 290	BASE ASSEMBLY		1	
11	G	M21 0A2 644	UNION		1	ϕ1/2,ϕ3/8,ϕ1/4 SET
12	G	M21 0A2 668	STOP VALVE (LIQUID) 3/8		1	ϕ3/8
13	G	M21 0A6 667	STOP VALVE (GAS) 5/8		1	ϕ5/8
14	G	M21 0A2 248	REAR PANEL		1	
15	G	T2W L7V 642	4-WAY VALVE		1	
16	G	M21 L2V 646	HIGH PRESSURE SWITCH	HPS	1	4.8MPa(48.9kg/cm^2)
17	G	M21 L2V 402	EXPANSION VALVE		1	F
18	G	M21 0A2 652	LEV COIL	LEV F	1	
19	G	M21 L2V 297	TOP PANEL		1	
20	G	M21 0A2 523	REAR GUARD		1	
21	G	T2W 0A6 630	HEAT EXCHANGER		1	
22	G	M21 L2V 249	SIDE PANEL		1	
23	G	T2W L7V 641	SERVICE PORT		2	
(24)	G	T2W L7V 959	POWER RECEIVER		1	
(25)	G	M21 0A2 937	CAPILLARY TUBE		2	O.D.0.12×I.D.0.08×11.8
(26)	G	M21 0A2 936	CAPILLARY TUBE		3	O.D.0.16×I.D.0.11×3.94
(27)	G	M21 L2V 938	CAPILLARY TUBE		1	O.D.0.10×I.D.0.02×39.37
(28)	G	T2W L7V 656	OIL SEPARATOR		1	

RoHS PARTS LIST (RoHS compliant)

MXZ-3A30NA - 1

14-6. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS



RoHS PARTS LIST (RoHS compliant)

MXZ-3A30NA - 1
14-6. OUTDOOR UNIT FUNCTIONAL PARTS AND ELECTRICAL PARTS

Part numbers that are circled are not shown in the illustration.

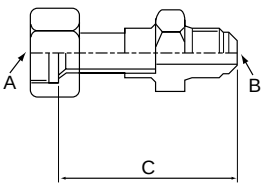
No.	RoHS	Parts No.	Parts Name	Symbol in Wiring Diagram	Q'ty/unit	Remarks
					MXZ-3A30NA - 1	
1	G	M21 L2V 501	PROPELLER		1	
2	G	T2W L7V 301	OUTDOOR FAN MOTOR	MF	1	PM8H60-□□
3	G	M21 0A1 440	POWER BOARD		1	Including heat sink and RT64
4	G	T2W 0A6 451	ELECTRONIC CONTROL P.C. BOARD		1	
5	G	M21 L2V 337	REACTOR	L	1	20A 600μH
6	G	M21 0A0 424	NOISE FILTER P.C. BOARD		1	
7	G	T2W 0A2 376	TERMINAL BLOCK	TB2~4	3	Indoor unit connecting
8	G	T2W L7V 377	TERMINAL BLOCK	TB1	1	Power supply
9	G	T2W L7V 398	R.V. COIL	21S4	1	
10	G	M21 L2V 308	THERMISTOR SET	RT61,62,68	1	DEFROST, DISCHARGE, OUTDOOR HEAT EXCHANGER
11	G	M21 0A2 309	AMBIENT TEMPERATURE THERMISTOR	RT65	1	

15 OPTIONAL PARTS

15-1. Different-diameter pipe

Unit : inch

MXZ-2A20NA MXZ-2A20NA - 1 MXZ-3A30NA MXZ-3A30NA - 1	Model name	Connected pipes diameter	Length A	Length B	Length C
For different-diameter pipes	MAC-A454JP	ϕ3/8 — ϕ1/2	ϕ3/8	ϕ1/2	2.72
	MAC-A455JP	ϕ1/2 — ϕ3/8	ϕ1/2	ϕ3/8	2.56
	MAC-A456JP	ϕ1/2 — ϕ5/8	ϕ1/2	ϕ5/8	2.62
	PAC-493PI	ϕ1/4 — ϕ3/8	ϕ1/4	ϕ3/8	2.38
	PAC-SG76RJ-E	ϕ3/8 — ϕ5/8	ϕ3/8	ϕ5/8	4

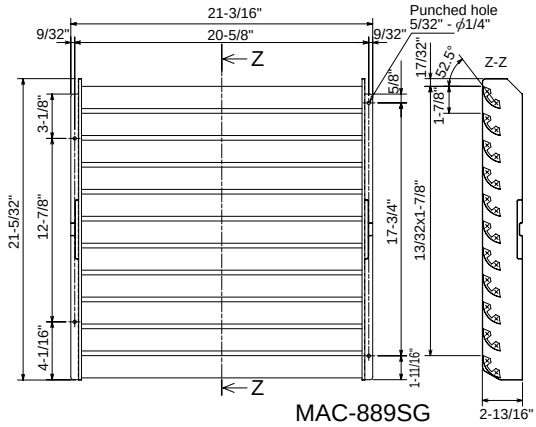


15-2. Outlet guide

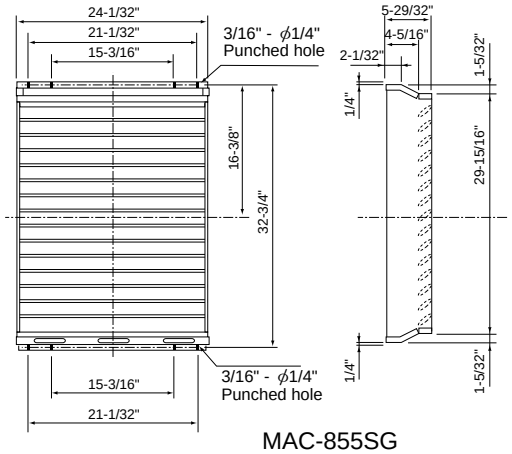
Changes air discharge direction.

Unit : inch

Applied unit	Model name	Model code
MXZ-2A20NA MXZ-2A20NA - 1	MAC-889SG	506-889
MXZ-3A30NA MXZ-3A30NA - 1	MAC-855SG	51H-855



MAC-889SG



MAC-855SG

Mr.SLIM™

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